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THE SCHOOL JOURNAL

A Weekly Journal of Education

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No. 15

OSSIAN LANG, Editor.

A New Education is Needed.

There are other things besides English spelling that are not yet finally settled. There is the domestic service question, for instance, and the increasing cost of living. Yes, and there is one of greater importance than any of these, one that has not stirred up exciting discussions and has no committee with ample endowment to look after it and keep its various phases alive in public interest. I refer to the changed economic position of woman. Few people seem to realize the far-reaching effects of the change. Yet the very foundations of civilization are concerned in it.

The institutions that ought to be most alert in the study of the new situation would seem to be the high schools and colleges. They move along the even tenor of their way as if the contemplative days of Sturm and Arnold would never pass away. There are exceptions, of course. There is William McAndrew, for example. Following out the ideals and plans of the wonderful woman who was his mother, and adding to this the endowment of his own original self, he is striving to make the Washington Irving High School of New York City help humanity to gain a right perspective of the education the girls are most in need of, in this first quarter of the twentieth century. But because one man does not like the way he rolls his R's and another believes he ought to eat shredded wheat for breakfast rather than oatmeal, he is not permitted to give his whole strength to the really big things. Boston, being at a greater distance from his school, can better appreciate his aims and plans. There, Superintendent Brooks is promoting an enterprise that promises to move the education of the young women in the public schools onto a sensible basis. In Chicago and Cleveland, too, several interesting experiments are under way. However, even with the fifteen to twenty public institutions that might be mentioned where an attempt is made to meet the new requirements, scarcely a ripple of the change is noticeable in the thousands of others which still cling to the *trivium* and *quadrivium* and the few modifications which the influence of Darwin and Spencer has forced upon them.

Child labor has undermined the discipline of the home. The infant wage-earner must be dealt with as a financial asset in the family. He and she must have his or her own way in many things. If he and she labors for self-support, this he and she will feel that the surplus may be spent for amusement. Play there must be, and the young wage-earners claim the privilege of choosing the games they like best. And what is the result? Everyone who comes in contact with the shadowy side of humanity knows. Here is what Mr. Bodine says, for example; he is superintendent of compulsory education in Chicago:

The low wages paid to feminine laborers is a menace to moralism. Poverty is the meanest of masters, and vanity is a cruel mistress.

The one who can interpret these statements aright has the key to a serious condition that is confronting humanity in our present civilization.

A *laissez faire* policy will not save us. The fact is, as Mr. Bodine has pointed out, that a vicious economic system has shortened the span of productive years, forcing out men over forty-five years of age, and filling their places with the cheaper labor of unprotected immatures. We force, as he says, women, girls and boys into factories, "creating adult dependency among men over the proscribed age limit." The cost to womanhood, to motherhood, to home life, to humanity—who can measure it?

Are the schools to blame? They certainly are. Perhaps not the schools of the present as much as those of the past. The low conception of life which sought to reduce education to the handling of a few tools known as the three R's, so that the possessor might be able to make out bills and read the newspapers, has brought the present conditions upon us. The unattractiveness of the schools made labor in the shops preferable by comparison. Compulsion was the method. Attraction should have been.

The schools that nurture ideals and seek by methods of sweetness and light to keep the young loyal to these ideals when discouragements arise, they are the saviors of the young. And the others will ask, saying, "Lord, when saw we Thee an-hungered, or athirst, or a stranger, or naked, or sick, or in prison, and did not minister unto Thee? Then shall He answer them, saying, Verily I say unto you, inasmuch as ye did it not to one of the least of these, ye did not to me."

The Best Asset of a City.

In the good old times the schools of Rochester, N. Y., were completely immersed in partisan politics. The building of schools, their equipment and repair, the appointment and promotion of teachers—all were controlled by the boss of the dominant party. Then came the public awakening. A new system of administration was organized. Citizens of high character were put in control. Their rise to power was hastened by the opposition of the discredited manipulators of the old machine. Professor Forbes became the leader under the new dispensation. To him Rochester is largely indebted for the progress that has raised the city schools to high rank.

Mr. Gilbert's election as superintendent was a wise move. He was ideally fitted for the breaking up of abuses that had become habits, and for the inauguration of a new education. He was succeeded by Superintendent Carroll, who carried on the good work, quietly building on the solid foundation his predecessor had laid. Mr. Gilbert and Mr. Carroll were both supported by the man who is now president of the Board, Prof. George N. Forbes.

The people of Rochester have had a remarkable object-lesson in the workings of absolute non-partisanship in the administration of the local school affairs. They believe in it; they have shown repeatedly their determination to uphold it.

The boss of the ruling party, knowing the temper of the citizens, has desisted from interference, and has long since refrained from obstructing the renomination of Professor Forbes. And now the Democrats have come forward and endorsed both Professor Forbes and his associate on the Republican ticket, Mr. J. Warrant Castleman, who is in entire sympathy with the ideals and policies that have governed the school administration of Rochester in recent years. This puts on record another great city where partisanship has been completely eliminated from school affairs. And what was the argument that won the people to this policy? Good schools. *Good schools. GOOD SCHOOLS.*

Good schools are the best political asset there is. Buffalo, Rochester! Who next?

Pres. Joseph Swain, of Swarthmore College, Pennsylvania, is president of the National Council of Education. In accordance with a resolution adopted at Los Angeles he has appointed the following committee to investigate and report at the next meeting of the Council upon "Provision for Exceptional Children": Supt. James H. Van Sickle, Baltimore, Md.; Associate City Supt. Andrew W. Edson, New York City; Frank Fitzpatrick, Boston; Supt. Carroll G. Pearse, Milwaukee; Supt. Lloyd D. Wolff, San Antonio, Texas.

The Board of Directors of the N. E. A. has appropriated five hundred dollars (\$500) for the expenses of this committee in making the investigations and preparing the report.

David Masson.

David Masson, Historiographer Royal for Scotland, died in Edinburgh on October 7. He was born in Aberdeen, Scotland, December 2, 1822. He received his education at Marischal College and University, and at the University of Edinburgh.

When only nineteen years of age, he undertook the editorship of a newspaper in Aberdeen. For several years he lived in Edinburgh, where he was actively engaged in literary work. In 1847 he moved to London, and he made his home there for eighteen years.

Dr. Masson succeeded Professor Clough as Professor of English Language and Literature in University College, London. He became editor of *Macmillan's Magazine*, to which he frequently contributed. In 1865, he retired from these two posts to accept an appointment as professor of Rhetoric and English at Edinburgh University. He occupied this chair for thirty years. He did no teaching after 1893, when he was appointed Historiographer Royal for Scotland.

Dr. Masson's literary career was a long and important one. He wrote many books, which are considered standard, and almost innumerable articles and essays. He also accomplished a great deal of editorial work. His "Life of John Milton," in six volumes, has become a classic. He was twenty-two years completing it.

Magazine for the Blind.

The biggest printing-office of literature for the blind in the world has moved into new headquarters on West Fifty-third Street, New York. From here will be issued the *Matilda Ziegler Magazine* for the blind.

The magazine was started a few months ago by the widow of the late William Ziegler. She felt a great desire to give blind people, free of cost, some of the things that other people read.

The subscription-list contains nearly seven thousand names. That means a great many more than seven thousand readers. In many cases only one copy is sent to an institution for the blind.

Gift Made and Withdrawn.

Mr. James W. Ellsworth, a millionaire coal operator of New York City, lately gave something over \$75,000 to his native town of Hudson, Ohio, on condition that his name, as giver, should not be made known to the public. The money was to be used in building an electric light and water plant, a sewage system, and in the beautification of the village.

Mr. Ellsworth has withdrawn his gift because his name soon became noised about. He has written to the town's officers, taking them to task, and blaming them for losing Hudson its chance of becoming a model village.

New Gift to Chicago University.

On October 11, John D. Rockefeller gave \$600,000 to the University of Chicago. The gift was for the erection of a memorial library to William Rainey Harper, the first president of the institution.

Work on the Harper Library will begin next spring. Mr. Rockefeller has now given \$28,000,000 in all to the University.

Training of a Crown Prince.

Crown Prince Frederick William of Germany began a year's work in the Prussian Ministry of the Interior on October 14. In order to do this he has been relieved from military duty for one year.

He will study the workings of each department of the Ministry, according to a program approved by his father, the Emperor. In this preparation for assuming the throne, he will be under the direct supervision of the Minister of the Interior.

The Prince will be present at conferences between the Ministers and the Chiefs of the Bureaus. It will be part of his work to prepare reports on selected subjects for submission to the Cabinet.

Reports to the effect that electric lights are detrimental to the eyesight are pronounced unfounded by an electrical expert in the *London Times*. He says that the trouble arises from too direct exposure of the eye to the light, and that effect would be the same or worse with any other light.

During the past school year there were 15,370 teachers employed in the New York public schools. Of these 6,777 served in Manhattan, 5,234 in Brooklyn, 1,343 in the Bronx, 1,209 in Queens, 369 in Richmond, and 438 for service in the entire city.

Educational Meetings.

October 31-November 2.—Upper Peninsula Educational Association (Mich.), Escanaba.

November 1—Essex County (Mass.) Teachers' Association, Peabody.

November 1.—Norfolk County (Mass.) Teachers' Association, Boston.

November 1.—Hampshire County (Mass.), Teachers' Association, Northampton.

November 7, 8.—Southern Association of colleges and preparatory schools, Athens, Ga.

November 8.—Berkshire County (Mass.) Teachers' Association, Pittsfield.

November 7-9—Wisconsin State Teachers' Association, Milwaukee.

November 8—Superintendents Association of New England, Boston.

November 29, 30—Inter-County Teachers' Association of Southwestern Indiana, Evansville.

December 26-8—Montana State Teachers' Association, Missoula.

December 26-28.—New York State Teachers' Association, Syracuse.

December 30, 31-January 1.—Associated School Boards of South Dakota, Watertown.

December 31-January 3, 1908—Colorado State Teachers' Association.

December 31-January 3, '08.—Iowa State Teachers' Association, Des Moines.

Popular Education in Sexual Physiology and Hygiene.

The Recent Movement Toward Rational and Adequate Solution of a Difficult Problem.

By GEO. PARKER HOLDEN, M. D., Yonkers, N. Y.

An address of the writer's, dealing generally with the above subject having been reported almost in full in these pages,* the thought was naturally presented that a more detailed statement of what is being attempted systematically in this field would prove of interest to THE SCHOOL JOURNAL's readers.

The question of widespread, judicious dissemination of knowledge concerning sexual physiology, hygiene, and ethics,—comprehending, as it does, popular realization of the great danger to health menaced by the venereal disorders, and a propaganda looking to the systematic adoption of radical but rational measures for the mitigation of the "social evil"—is one the transcendent importance of which has long been accentuated in the minds of many of our foremost educators and medical men.

Specially noteworthy evidence of this is the action taken at the "International Congress for the Prophylaxis of Venereal Diseases," held in Brussels in September, 1899, at which twenty delegated physicians reported upon the results of their investigations of the conditions of prostitution in as many respective countries. Chief amongst the resolutions passed at that conference were these: "To take steps for the organization of an international society of sanitary and moral preventive measures; to urge upon university authorities the establishment of obligatory courses in venereal diseases and to further assist the general dissemination of knowledge regarding the danger to health of these diseases."

Months previous to the action above noted the writer had expressed himself to the point that effective measures were largely dependent upon radical but judicious and progressive legislation; which, in turn, is dependent upon an intelligent public sentiment; this, again, being dependent upon adequate popular knowledge of the subject. In consequence, the logical contention is, that any thoroly effective campaign must be planned to commence with educational work amongst the youths of the rising generation.

And it should begin long before the youth reaches the university! It should begin at least upon entering the high school, and in view of the large numbers never reaching there it should begin with the youths of the highest grade in the grammar school.

Two things are essential to the proper, successful accomplishment of this, i. e., specially trained male teachers by the pedagogical schools, and for use in training such teachers, as well as for their own reference use, a compact body of unquestionably authoritative facts concerning the complete subject, in its medical and sanitative, psychological, sociological, and moral aspects.

For the question is not alone a moral one; it strikes deep to the root of things fundamental and vital in the life both of the individual and the race. Adequate special knowledge of the kind we are now considering, society owes to the individual as a fundamental right, and the State owes it as a conservative measure both for the individual and public welfare. And this leaves a wide margin between our contention and preaching the doctrine of state paternalism.

As a gage of the way in which the general medical profession in the State of New York is viewing this matter to-day, we wish to mention the work of the special committee appointed by the Homeopathic State Medical Society, at the annual session

in Albany, February 14, 1905; and the recent organization in New York City of an American Society for Sanitary and Moral Prophylaxis, whose first concern is with the educational side of the question of sexual ignorance and transgression.

The first communication of the Homeopathic Medical Society's special committee read as follows:

This committee was duly appointed, as above, following the presentation and free discussion of the accompanying paper.† It made the following initial report:

The Committee asks for an extension of time, owing to insufficient data in their possession upon which to base a final report. It asks power to investigate, in the name of the Society, by correspondence with educators, instructors in pedagogy, physicians, and others who may be especially interested in this matter, with a view ultimately to a conference—the Committee to report to the Society at the semi-annual meeting.

The Society unanimously voted the Committee the enlarged powers requested, and, under this endorsement it will be pleased to receive from you an expression of sympathy with its purpose, and of personal willingness actively to co-operate in organized effort toward the practical achievement of the same.

A second circular-letter was also sent out, as below:

The undersigned committee has to report that five hundred copies of its first circular letter and accompanying pamphlet were sent out to the principal college presidents, State educational commissioners, superintendents of education, professors of psychology and of pedagogy, professors of pediatrics and genito-urinary diseases of the medical schools, principals of normal schools, the leading medical and educational magazines, and to the respective secretaries of the principal medical societies throughout the country.

As was not unexpected the response was not as general as was desired, but largely made up in quality of interest and suggestiveness what was lacking in quantity.

A number of the larger universities and colleges were heard from, both thru their presidents and educational departments. The typical attitudes of many of the leading educators seems to be best expressed in the letter of President Hadley, of Yale: "I think that all of us feel the great importance of the subject which you have under discussion. Farther than this I do not feel that I can go at the present moment." Many preferred requests to be kept posted as to farther developments in the organization of the contemplated society and its plan of work.

But it appears that on February 12 last, only two days prior to the appointment of this committee, as noted above, there was formally organized in New York City an American Society of Sanitary and Moral Prophylaxis, designed, prominently amongst its aims, to cover the identical field of such an organization as was suggested in our former communication. This new society, it may here be mentioned, is the outcome of the recommendation made some few years ago at Brussels, in the resolutions adopted by the International Congress for the Prevention of Venereal Diseases. It also is international, there already being several European branches.

The American society has appointed the first of its standing committees a committee on education, "to study and apply the best means of educating the public thru individual and collective instruction."

* "The Physician's Unpaid Debt to Youth."

† "The Physician's Unpaid Debt to Youth."

The above society being already in the field, with the active interest of many prominent members of the bar, the clergy, medical profession and laity, already enlisted, it appeals to this Committee that it cannot more fittingly and successfully conclude its work than by its earnest recommendation that all interested should unite with the American Society of Sanitary and Moral Prophylaxis, which will welcome to its already notable ranks the sincere co-operation of all, regardless of sect or sex.

Farther information may be had from the secretary, Dr. Edward L. Keyes, Jr., 109 East Thirty-fourth Street, New York.

It will be of additional interest to cite here the statement of Dr. Prince A. Morrow, president of the above named society—and than whom no one better fitted for the office, both as to personality and professional reputation, could have been chosen,—that in the Academy of Medicine in New York City during the twelve weeks immediately following the beginning of the recent agitation of this subject within its walls, more papers on the general subjects of sexual education, venereal diseases, and the social evil have been read there than for twelve years prior to that time. This statement was made at a semi-open meeting of the New York County Medical Society, held at the Academy of Medicine May 15, 1905; and which was particularly notable not less for the elevated tone of the discussion than for its remarkable freedom relative to subjects that a false social attitude had formerly practically tabooed. Eminent members of the bar, of the clergy, the medical profession, and the laity were present, and actively interested in the proceedings.

The papers discussed at this meeting were: "The Need of Sexual Education," by Dr. E. L. Keyes, Jr.; and "Social Prophylaxis and the Medical Profession," by Dr. Prince A. Morrow. As Dr. Keyes very pithily put it, while the society indulges in no Utopian ideas as to the possibility of the utter extermination of venereal disease and the social evil, it does believe that much can be accomplished in the way of limitation, and sees no valid reason in past precedent "why future generations of boys should grow up in the same old muddy rut."

As already intimated, this Society of Prophylaxis is following along the line of similar organizations which have thus far been very practically successful in a number of leading cities of Europe. It will become the recognized medium in this country of impersonal but authoritative communication to the public of the consensus of scientific opinion concerning a body of knowledge, most vital to the individual and to society, and to which hitherto it has not had free access.

Following are two typical programs of the regular bi-monthly meetings of the American society: Held April 14, 1905,—"Education and Sexual Hygiene," by Dr. John H. Elliott, of the Hudson Guild; "The Sexual Necessity," by Dr. Edward T. Keyes; "Attitude of the Church toward Sexual Hygiene," by Rev. Henry A. Brann, rector of St. Agnes' Church; "Ignorance, Perversion, and Degeneracy," by Frank Moss, Esq., of the Society for the Prevention of Vice; "Education Within the Medical Profession," by Dr. Prince A. Morrow. Held May 19, 1905,—"The Preventive Value of Sexual Education for Boys," by E. M. Robinson, of the International Committee of the Young Men's Christian Association; "Prophylactic Value of Normal Marriage," by Andrew H. Smith, M. D.; "The Best Way to Treat the Social Evil," by Howard A. Kelly, M. D., of the Johns Hopkins Medical School. Discussion by Bishop Greer, Charles Sprague Smith, of the Peoples' Institute, Rev. R. L. Paddock, Dr. David Blaustein, William A. Purrington, Drs. Felix Adler, Fisher, and other prominent members both of the profession and laity.

The comprehensive propaganda to which the society is committed, and which the writer firmly believes is destined to play a notable part in the service of social enlightenment and uplift in this twentieth century, may be learned from the constitutional provisions:

First of all for what is considered the primary need, a Committee on Education, already mentioned;

(2) Committee on Treatment, to study the provisions made for the treatment of venereal patients, and to recommend whatever changes may be required in the way of increased facilities;

(3) Committee on the Social Evil;

(4) Committee on Legislation;

(5) Committee on Publication.

This society fully recognizes that it will take time to make its influence appreciable, and the strongly entrenched prejudice it has to overcome, particularly upon the part of many educators and members of the clergy; but confident that it is engaged in dealing with a great problem in the right way, it will diligently pursue its work undaunted. Nor will it lack for influential recruits, judging by the success already attained. It welcomes to future participation in both its trials and triumphs, the disinterested co-operation of all sympathizers. Its broad, humane work *should* powerfully appeal especially to educators, the bar, to all physicians, and to members of the clergy and of the Young Men's Christian Association. Says Mr. Robinson, of the Y. M. C. A. International Committee, "We have 187,000 young men in our physical department awaiting just such authoritative instruction in this vital matter as your society can impart."

With a brief statement of some definite details as to the reason for all this agitation—the *casus belli* that justifies the movement outlined—the writer will bring this paper to a close.

Not to go into all the facts, but confining our consideration to but a single feature of the question, we believe the situation to be fairly summarized as follows:

The simple unanimous dispassionate statement of medical science concerning the communicability, prevalence, stubborn character, and cruel devastation of the disease of gonorrhea, on the one hand, and the indifference, complacency, or levity with which it is commonly regarded on the other—these facts unelaborated constitute the scathingest possible arraignment of the ignorance and negligence of the race.

The physician understands that about 75 per cent. of men in all civilized countries have contracted the disease mentioned; that a considerable proportion of the worst cases of inflammatory rheumatism is due to this specific poisoning; that a tremendous proportion of pelvic diseases of women, about 65 per cent.,—for the radical relief of which there are performed those severe and brilliant operations which have conferred lasting fame upon American surgery and its exponents since the time of J. Marion Sims,—is due to the same cause; and 80 per cent. of female deaths from pelvic disease; that 15,000 of the 50,000 blind persons in the United States lost their sight from this cause in infancy; and that it is a common cause of sterility in woman.

"The average man is not a criminal," says Dr. Morrow, of New York, an eminent authority of international repute, "he does not wreck the life and health of his wife and children knowingly and wilfully. In most cases he does it thru ignorance of the nature and terrible consequences of his disease—the opinion of all physicians who have had much to do with this class of cases is concurrent on

this point,—ignorance of the prolonged duration of its contagious activity, and especially, ignorance of the fact that it is often infectious after apparent cure."

For the purpose of the present article it will suffice to rest the matter here, without consideration of any other venereal disease, or such common disturbances as sexual neurasthenias and melancholias, not to speak of the nauseous subject of perversion.

In fine, as the knowledge of morbid body processes increases in scientific exactitude, the baleful character of gonorrheal poisoning, once considered a merely local infection, becomes not a whit mitigated in the retrospect; on the contrary, it looms ever darker, and but recently there has been added to the foregoing summary the discovery of diffuse gonorrhea with its foci of sloughing infection in parts of the body most remote.

The writer does not pretend that the majority of the ills mentioned are a common result of the average case [of urethral catarrh; he does state that some are by no means rare complications or sequels of this disease, and that none would occasion surprise to the physician of the present day. That the subject is sufficiently impressive without the fictitious aid of exaggeration, witness what Dr. Powers has to say in a leading article in one of the foremost medical journals of this country:

"At this time we are in possession of sufficient data regarding the secondary manifestations of gonorrhea to know that practically all of the tissues of the body may be affected. Most often the process invades the joints, but the gonococcus [specific germ of the infection] has been recovered from the peritoneum [lining-membrane of abdominal cavity], the pericardium [membrane around heart], the myocardium [muscular mass of heart itself], and endocardium [lining membrane of heart], the meninges [membranous covering] of the brain and spinal cord, the periosteum [membrane covering bone], the perichondrium [membrane covering cartilage], muscles and tendon-sheaths, bursae [small membranous sacs interposed between movable parts], fascia [membrane covering muscle], the skin, distant lymphatic glands, the parotid gland, the kidney, the blood current. It has been customary to group these manifestations under the general term gonorrheal 'rheumatism.' It would seem wise to discard this and substitute gonorrheal septicemia [general poisoning of the body thru infection of the blood-current]." ("Diffuse Gonococcus Infection," Charles A. Powers, M. D., *Medical Record* for October 3, 1903.)

The average man is *not* a criminal—but he is wofully ignorant. For how much longer will society and the State complacently view an ignorance fraught with such direful consequences?

Chinese Lace.

The manufacture of lace at the Amoy Lace Guild is an industry of growing importance. The Guild is a charitable organization. Its purpose is to provide a source of income to indigent Chinese women and children. It was founded by a Mrs. Broadbent, in 1895. She introduced the art of lace making here.

The lace is similar to torchon and Irish bobbin lace. As the Chinese do not possess a knowledge of art sufficient to enable them to design patterns, the patterns are imported from England and Ireland. Chinese show great aptitude for work of this kind.

Foreign firms are becoming interested, and the Guild is now shipping lace to European and Canadian cities.

Healthy College Students.

BOYS AND GIRLS IN COLLEGES GROWING IN HEIGHT, WEIGHT, AND STRENGTH.

[*Medical and Surgical Journal*]

In 1899, Dr. Paul C. Phillips, now in charge of the department of hygiene and physical education at Amherst College, prepared some statistics for a periodical which showed beyond a peradventure that the boy who goes to college to-day is taller and heavier, and the girl taller, heavier, and of greater chest girth than the boy and girl of the same age from forty to fifty years ago.

Mr. J. B. Vines had, in 1899, found the same facts to be true in England, the boys in Marlborough and Rugby schools, ranging from twelve to eighteen years of age, being both taller and heavier at the same age than their fathers had been a quarter of a century before.

Of the girls examined at Smith College in 1900-03, those at seventeen years showed a superiority of a half inch in height, three pounds in weight, and two-thirds of an inch in chest girth over those at the same age 1883-88. At eighteen years the superiority amounted to three-fifths of an inch in height, nearly three pounds in weight, and a half inch in chest girth. These were in general corroborated by figures from Wellesley, Oberlin, Chicago, and Mount Holyoke Colleges.

The Amherst College figures are from thousands of students and very reliable. They show the average heights and weights of students seventeen to twenty years of age to be as follows in three different periods:

HEIGHT OF AMHERST COLLEGE STUDENTS.

Age	1880-84 Inches	1884-94 Inches	1900-03 Inches
17 years.....	66.8	68.0	68.2
18.....	67.0	68.1	68.4
19.....	67.1	68.2	67.7
20.....	67.5	68.3	68.3

WEIGHT OF AMHERST COLLEGE STUDENTS.

	Pounds	Pounds	Pounds
17 years.....	128.7	130.8	129.9
18.....	131.1	133.6	134.5
19.....	133.1	136.4	135.6
20.....	135.0	138.0	138.2

The statistics for 1900-03 would probably show the superiority more clearly were they as numerous as those for the preceding periods. The measurements of freshmen for the year since 1903 show the class averages even higher in height, weight, and strength, than they were in the years 1900-03, altho the average age is somewhat less.

There is evidence to show also that health, in our colleges at least, is improving. The president of one of our New England colleges, a man of unquestioned good judgment, in his report to the trustees in 1854, stated: "The waning of the physical energies in the midway of the college course is almost the rule rather than the exception among us, and cases of complete breaking down are painfully numerous." Such statements sound strange in our ears to-day. The health of students is generally better at graduation than on entering college, and the same might probably be said of our high schools.

Chinese to Study Politics.

An Imperial edict issued September 30, decrees compulsory education for everybody in China. The people are to be taught the principles of Constitutional government. This is in order to fit them to elect representatives when a parliament is created.

The Government expresses a desire to establish parliamentary institutions. It adds that the success of these depends upon the knowledge and education of those called upon to govern.

The Rise of Vocational Schools. II.

By ALBERT A. SNOWDEN, Teachers College, New York

The first movement toward general introduction of Sunday industrial instruction in Wuerttemberg, appears to have been the preliminary inquiry set on foot in 1818 as the result of a letter from the President of the Royal Benevolent Association (*Wohlthaetigkeitsverein*) to the Minister for Education and Religious Affairs, asking if it were not possible to introduce such instruction into the programs of the Sunday-schools, and citing the precedent of the Society for the Promotion of the Useful Arts, Frankfort, A. M., which had already founded an industrial Sunday-school. It was in 1825 that the Royal School Board (*K. Studienrat*), in charge of the higher classical and realistic schools, was entrusted with the mission of propagating Sunday industrial schools and regulating their administration and programs. This authority was conferred upon the Board by the educational ministry. The Board sought to arouse the localities (*Gemeinden*) to action in behalf of these schools; it worked out a course of study and issued yearly reports concerning the new institutions. In 1826 the course of study was as follows:

I. For the schools in small towns:

1. The reading of various and difficult handwriting.
2. Common problems in arithmetic, fractions, proportion, interest. Also a knowledge of weights and measures, and moneys used in Germany, with the application of decimal reckoning thereto.
3. Instruction in the preparation of business forms and estimates.
4. Geometrical drawing, and the usual methods of measuring and reckoning the surfaces and solids.
5. Drawing—sketches of foliage and household utensils.

II. In larger towns the following courses were added to the above:

1. Continuation of work in arithmetic, with more comprehensive problems, and introduction to square and cube root.
2. The most important theorems of geometry.
3. The principal facts of mechanics in regard to the lever, pulley, inclined plane, wheel, and windlass, screw, and wedge. The common facts in regard to combined machines.
4. Geography, with especial reference to natural products and manufactures.
5. The principal facts of nature study.
6. Universal technology; the methods of turning raw materials into artistic products.
7. Architectural drawing.

In the absence of an architect to teach the last-named subject, instruction might be given by a foreman, a good carpenter or cabinet-maker. In general, the regular teachers in higher and middle schools, and those practical workers in industries who had received some scientific training, supplied the teaching corps. The problem then, as now, was to get teachers who were willing to obtain

some practical experience, or practical workers who were willing to add to their technical preparation some study of the science of teaching. Naturally, success in either direction was not complete, at the first.

The number of these schools increased rapidly because of the recognized need which they attempted to fill. There were thirty Sunday industrial improvement schools in Wuerttemberg in 1827, and thirty-seven in 1828. Those in Stuttgart, Tuebingen, Ulm, Gmuend, Halle, and Ravensburg, were the most important. But the schools could not give entire satisfaction because of the difficulty of obtaining fully prepared teachers, and because the same books and other materials that had been employed for the common and real schools were used for the specialized instruction. They were, nevertheless, improved from year to year.

Ulm was then the largest and best-organized of the Sunday-schools. Its program occupied five hours on Sunday, six teachers were employed, and the enrollment reached 328 students at this period.

By 1846, they were established in sixty-nine Wuerttemberg towns, and enrolled a total of 4,500 pupils. The meager character of the instruction given may be measured by the fact that forty-six of the schools occupied only two hours a week each, while in thirty-eight schools there was only a single teacher. Despite all efforts of the Royal School Board, little ground was gained until after the organization of the Central Bureau for Trade and Commerce—under the Interior Ministry—in 1848, and its subsequent activity in the development of industrial schools.

Before continuing to outline the growth of industrial improvement and special trades' schools in Wuerttemberg, four or five movements that were especially active during the first half of the nineteenth century should be mentioned. One of these is concerned with the growth in Germany and Austria of the *Realschulen*, with their emphasis on modern languages and science in lieu of the classics of the *Gymnasien*. Francke (1663-1727), in Halle, had given the first great impulse to the new movement, which laid particular stress on the "mastery of environment." In 1747, Hecker founded at Berlin the first school in which the *Realien* were predominant. Under Frederick the Great these schools spread rapidly in Prussia, as was also the case in Bavaria and Austria. For the middle classes they furnished the nearest approach to the vocational school, and were destined to be the chief recruiting ground in later years for the higher technical schools of university type. Their share in the preparation of commercial leaders has always been considerable.

A second movement that is important to take into account was the gradual freeing of industry from the destructive effects of a system of innumerable taxes and customs duties. At the commencement of the nineteenth century there were in the ancient province of Prussia alone "sixty-seven different tariffs for almost three thousand kinds of merchandise, and these were to be reckoned in any one of the seventy-one officially established coinages." Not only were the German States separated from each other by tariff walls, but the towns within each land had their own city-customs duties (as Paris now in the case of provisions). Significant of the conditions of the times was the proud proverb of South Wuerttemberg—"Ulmer Geld geht durch alle Welt" ("The money of Ulm will pass anywhere")

* The so-called "industry schools" (*Industrieschulen*) of the present in Bavaria are different. The four schools of this type, at Munich, Nuremberg, Augsburg, and Kaiserslautern date from 1868, and altho originally intended to prepare graduates directly for industrial occupations they have become chiefly preparatory schools for the higher technical institutions.

a fact not true of a great many German towns whose exact financial status could not be ascertained. At the beginning of the nineteenth century the guilds, also, still possessed many exclusive privileges which tended toward the restriction of trade. Prussia was the first to break away from the toils which retarded industrial enterprise, and its customs law of 1819 brought free and unrestricted trade to the interior localities. The clever political influence of Prussia succeeded in extending the benefits of such legislation to other German States, and led to the Universal German Customs Union of 1834, a union that later included not only all the German States, with the exception of a few of their communes, but also the Grand-Duchy of Luxembourg and several communes in Austria. The advantages that accrued from the removal of intercity and interstate restrictions caused commerce to go forward by leaps and bounds, with the resultant benefit to industry.

The complete abolition of the guilds—as in France by law of the Constituent Assembly of 1791—or their restriction—as in Austria by Imperial decrees, and in Prussia thru the celebrated edict of 1810; the organization at a later date of industrial unions, and the share these associations took in the founding of special trades' and industrial schools, and in inspiring State initiative in this direction—these events make up a chapter in the industrial history of the period that is closely interrelated with the movements already cited. The union that was organized in Hesse, in 1837, proceeded at once to establish three elementary trades' schools, and is still entrusted with the development of industrial schools in the State. Similar societies in Austria founded elementary institutions for apprentices. These associations are now, in the industrial centers of Europe, most important agencies for the promotion of vocational instruction.

A further stimulus to the industrial institutions of Germany came from the influence of France, exercised not only directly, but also thru its effects on English, Belgian, and Austrian industry. It was in France that the introduction in the sixteenth century of geometry—a subject that was to have a far-reaching influence in industrial education—met with especial favor. It was here, also, that in both the seventeenth and eighteenth centuries not only were the common schools developed to a degree not found in other countries, but vocational instruction had been introduced in many communes thru private initiative. Here, again, the development of art as applied to industry, early reached a high state of perfection. France was the first to found a polytechnic school, and altho the central government paid little attention to the establishing of elementary industrial schools until the last quarter

of the nineteenth century, it had special facilities for the training of technical teachers before the end of the eighteenth. Industrial taste and industrial intelligence were widely disseminated by the experts sent into the provinces. Paris was in the eighteenth century as it is now, the heart of a centralized nation whose industrial life-current was constantly revived by communication and contact with the capital. However, it was not until the London Exposition of 1851 that the eyes of the industrial world, and especially of the English, were fully awakened to the superior excellence of the French products of industrial art and to the causes of their supremacy in the markets of the world. England became alive to the lack of facilities for industrial education. The newly-organized Science and Art Department took up the problem, and within a few years a vast system of industrial drawing-schools was organized, with the Industrial Art School of South Kensington Museum as the center, and the chief source of teachers. By 1873, England and Scotland had 173 industrial schools of art, with 22,000 pupils, and 460 evening art classes. Also, in over 2,000 elementary schools drawing was a compulsory subject. There were besides, in England, Ireland, and Scotland, nearly 1,400 industrial schools, and several hundred chemical laboratories, with a total of nearly 50,000 students who were preparing themselves for the building, mechanical, or chemical industries. Under the protection of the Prince Consort elementary industrial education was organized with more system than any other type of instruction in England. The consequent benefit to English trade is a matter of history.

(To be continued)

The Forests of France.

France contains over 23,500,000 acres of wooded lands. The State owns about 2,707,000 acres, which are well guarded and taken care of. Various departments and communes possess some 3,472,000 acres of forest which are not so well managed. The remaining timber is owned by private interests. Often large tracts are sold to speculators, who, after cutting off the trees regardless of size, sell the land for grazing. Due to this, resinous trees are fast disappearing, the ash and acacia can scarcely be found, the poplar is becoming rare, and the chestnuts of the mountains have nearly disappeared. Gaul, once the home of the great oak forests, now has to seek other countries to furnish the necessary supply of oak, and at present France imports more than \$7,000,000 worth, inferior to that once grown, from Austria, Roumania, Russia, Germany, and America.

Gems from the German. II.

Translated by PROF. PAUL H. GRUMMANN, University of Nebraska.

Ungeloeste Fragen.

Ungeloeste Fragen auf der Lippe,
Ungestilltes Sehnen in der Brust,
Ueberrascht uns Stundenglas und Hippe
Mitten in des Lebens Leid und Lust.

Allsogleich begräbt der dunkle Spaten
Unser grosses Wollen, kleines Thun,
Und wir geh'n, von ungethanen Thaten,
Wirkungslosem Wirken auszuruh'n.

Was der Parze Spindel uns geboten,
Sucht die Scheere, die den Faden kuerzt;
Schweigend haut der Tod entzwei die Knoten,
Die das Leben unruhvoll geschuerzt.

ROBERT HAMERLING.

Unsolved Questions.

(From the German of Robert Hamerling.)

Unsolved questions hovering on our lips;
Unrequited longing in our soul;
Death with scythe and hour-glass confronts us
Long before we reach the cherished goal.

All too soon the sexton's shovel buries
Our bold plans and trite activity;
And we rest from labors unaccomplished,
Efforts cursed by their futility.

Whatso'er Fate's distaff may have granted
Is atoned for by the severing shears.
Death, in silence, hews the knots asunder
Which life fashioned with its doubts and fears.

Diversions for the Latin Class.

(TO BE ACTED BY PUPILS.)

By B. ORANGE.

Philemon et Baucis.

PERSONAE DRAMATIS

PHILEMON, an old man.

BAUCIS, his wife.

JUPITER.

MERCURY.

Scene. Interior of Cottage.

(When scene opens, Philemon and Baucis are sitting supping off cabbage in their little room. Knocking is heard without.)

PHILEMON.

Quis pulsat fores?

VOICE FROM WITHOUT.

Viatores sumus. Cibus requiemque petimus.

Per te deos oro, accipe nos.

PHILEMON (opening door).

Intrate, amabo. Vos salvere jubemus.

Enter Jupiter and Mercury, muffled in cloaks which disguise them.

JUPITER.

Salve, senex et tu femina! Tibi gratias ago.

MERCURY.

Multas domos frustra hodie adiimus. Nox advenit et fessi sumus.

PHILEMON (bustling about fussily).

Lectum, sterne uxor. . . . Considite ambo si vultis. Mox cenam parabimus.

(They sit, while the old man kneels down and blows the fire, the old woman running backwards and forwards with dishes.)

Ego ignem suscitabo; tu ligna fer.

(The old woman brings sticks.)

Nunc mensam appone. Agedum, para ova, radicem, olus, favum.

BAUCIS (looking at table).

Vereor ne non satis sit. Nonne anserem mac-tabimus?

PHILEMON.

Nostra unica custodia? Eheu! me miserum!

BAUCIS.

Hospites, ut mihi videtur, esuriunt.

PHILEMON.

Esto. Eamus anserem captatum.

(Takes a large knife and goes out, followed by his wife.)

MERCURY (sententiously).

O fortunatos nimium sua si bona norint agricolas!

JUPITER.

Sic; multa enim petentibus multa desunt.

(The goose flutters in and falls at feet of Jupiter, pursued by the old man and woman.)

PHILEMON.

Captus est. . . . Habet!

(Raises his knife.)

JUPITER (seizing his hand).

Noli eum necare! Anser Romam servavit; nos anserem servabimus.

(Both the gods throw back their cloaks and uncover their faces.)

Di sumus.

(The old man and woman throw themselves on their faces on the ground, and the old woman says)

BAUCIS.

Pro deorum fidem! Perii!

JUPITER (graciously).

Ego Jupiter sum.

PHILEMON (raising his head).

Jovis omnia plena sunt!

MERCURY (conceitedly).

Et ego facundus nepos Atlantis sum.

BAUCIS (rising).

Ain tu, o juvenis? Non novi istum.

MERCURY.

Ego Mercurus sum. O rustice crassa Minerva!

BAUCIS.

Peropportune quidem accidit ut nobis nullae boves sint.

(Mercury turns away, biting his lips.)

JUPITER.

Bene de nobis ambo meriti estis. En ego iam faciam quod vultis. Dicite quid opetis.

(Philemon and Baucis with joyous expression confer together for a moment in a whisper.)

PHILEMON.

Volumus esse sacerdotes tui templi dum vita manebit. Cum moriendum, erit, eodem die e vita excedamus.

JUPITER.

Votum exaudium est. Haec casa cras templum fiet. Valet! Veni Mercuri.

(They depart.)

(The old man and woman stand staring at each other. Then Baucis says)

BAUCIS.

Immensa est finemque potentia coeli non habet!

Scientific Kite Flying.

Mount Weather Bureau has been conducting experiments in kite-flying, with a view to determining the weather conditions at various altitudes. For instance, a temperature of forty degrees was recorded at the top of the mountains at a height of 1,000 feet, while at a height of 3,000 feet the temperature was eight degrees warmer.

According to Professor Henry of the Bureau, the highest altitude ever reached by a kite in this country was attained on October 3. It was slightly over 23,000 feet.

Polar Bears to Haul Sleds.

Captain Amundsen, the Norwegian explorer, is now in this country. He says that he is anxious to secure the Arctic vessel *Fram*, and sufficient funds, and have a try for the North Pole in 1910. He would take provisions for six years.

His plan would be to enter by Bering Straits, and let himself be carried in by the north-going tide from Nippon.

"It is quite true," said Captain Amundsen, "that I intend to try polar bears to haul my sleds. Hagenbeck is training four bears, and guarantees that they will be perfectly docile. Bears will be more serviceable than dogs, as they hibernate during the six months of winter. Each bear will draw a sled. They will be fed on seal meat."

Filipino Independence.

Mr. Edward Spencer Pratt, formerly American Consul-General at Singapore, is strongly in favor of allowing the Filipinos to purchase their islands from the United States. He expresses confidence that they would willingly undertake to repay the \$20,000,000 which we paid to Spain for the Philippines, cede to us such naval stations as we may desire, and give us, by treaty, exceptional trade advantages over other nations.

Methods in Teaching Physiography.

By CLARENCE M. HALL, Central High School, Springfield, Mass.

In this article it is proposed to describe some methods in teaching physiography which have met with some degree of success in actual practice.

In the school where this work is given, the course comes in the senior year, and is preceded by a half year of astronomy. The physiography work occupies one-half year of five periods per week.

The objects aimed at are, to arouse the pupil's interest, to impart practical information, both of his own and other countries, to promote culture, to broaden his mind by enabling him to interpret the meaning of the formations he sees around him. "He is best educated to whom most appeals."

Laboratory and field work are made the basis of instruction. A text-book is used, in which work is assigned by topics bearing on the subjects under consideration in the laboratory or field. Perhaps two-fifths of the time is occupied in recitations.

A laboratory manual is utilized during the first part of the course, when field work is impossible on account of the weather. Among the exercises in the laboratory are the following:

- Rotation of the earth and effects.
- Standard time.
- Study of latitude and longitude.
- Plotting from observed data, sunrise and sunset curves.

- Weather data plotted.
- Temperature of the earth's surface.
- Barometric pressure.
- Planetary winds.
- Weather maps.
- Rainfall of the earth.
- Study of young, mature, old, and rejuvenated regions from contour maps of United States Geological Survey.
- Study of volcanoes.

About forty exercises are done in all, each taking about one period.

A feature is made of individual metrological observations, for which there is a sling psychrometer, wet and dry bulb thermometers, maximum and minimum thermometers, standard mercury barometer, rain gauge, barograph and thermograph.

A chart of cloud forms is posted, and pupils record the sky appearance daily, comparing their observations with the pictures of the cloud forms.

This set of weather observations extends over about six weeks, and is done at definite times each day.

Daily United States weather maps are posted, and pupils often read them, keeping watch of cyclonic storms as they come up across New England. The presence of the low pressure center is in this way connected with the low reading which appears on the barograph chart at the time.

It is proposed to extend this work next year by installing a home-made apparatus for recording wind direction, velocity, amount of sunshine and rainfall.

In pleasant weather trips are taken about once in two weeks, the class being furnished with an outline for study, beforehand. Among these trips are the following:

- Trip to United States Armory Weather Station at Springfield.

- Trip to Amherst Agricultural College Experiment Station.

- Trip to sandstone quarry.

- Trip to trap rock quarry.

- Trip to Mt. Tom, a local elevation, for study of Connecticut River valley.

- Trip to United States Armory Tower for study of local topography.

- Trip to Forest Park, near the city, for study of river action.

Written reports of these trips are made, and form part of the record of the pupil in field work. Pupils' interest in these trips is markedly apparent.

Another way of catching the interest is the assignment of special topics to be looked up outside and presented to the class in a written report.

These reports are written in ink, contain an outline, bibliography, and sketches illustrating the topic, if possible.

A list of topics bearing on the work at the time is posted by the teacher, and the pupils are allowed to select the one they like best. As an example of these topics, a few are here listed:

- Meanders in the Connecticut River.
- Flood plains in the vicinity of Springfield.
- Inundation of Salton Sink, Col.
- Physiographic features of Little River water supply of Springfield.

- Water powers in the vicinity of Springfield and their probable causes.

- Effect of removing forest growth from watersheds.

A few lectures are given by the instructor and are usually illustrated by lantern slides. Such subjects as glaciers and glacial period, or volcanoes, can easily be well illustrated, as there are now many fine lantern slides on the market along physiographic subjects. These lectures are written up from the pupils' notes, and form the subjects of recitations the next day.

Demonstrations of the effects of heat, of the formation of strata in water, effects of rotation on solids, liquids, and gases in motion, are given at those points in the work where they will illustrate it or make it more interesting.

To connect the class-room further with the outside world, pupils are asked to watch the daily papers, and bring in clippings of interest such as accounts of tornadoes, floods, earthquakes, or volcanic disturbances. These clippings are read and posted in a conspicuous place for a week, where all may read them as they come in.

Sometimes the localities mentioned in the accounts are looked up in the atlas.

Pictures are cut from magazines and papers, if they possess physiographic interest, and are then posted for a time.

These pictures and clippings are then returned to the pupil, who is expected to paste them in a scrap-book, which he will present at the end of the year as part of his laboratory work.

For general field work each pupil is assigned a section of the city near his home and is expected to report as fully as he can upon its physiography and to map a small portion of it with a few contours. He also makes a simple cross section of it, finding out, if he can, the nature and arrangement of the materials, by observing cellar holes, railroad cuts, or similar openings.

Two of the class were given the work of keeping a continuous record of the depth of the Connecticut River, at Springfield, observing on the city's engineer's gauge board installed at one of the bridges. From their daily readings, a curve was plotted with depths as ordinates, on a large sheet of cross-section paper. Also on this sheet were drawn lines showing the maximum depths reached in time of flood in previous years, and the class became interested to watch the curve as it was developed daily, to

see if it would reach any of the maxima of other years.

Some use has been made of small models molded from molding sand and broken rock, to illustrate contour lines and river action on a small scale. A small hill about three feet long, and with a gentle slope, was made of various materials, and a small stream of water allowed to flow on it for several days, the class noting the changes as the erosion progressed. Thus was illustrated the aging of a young region.

A useful exercise is the description of photographs

or half-tones of regions, the pupil being asked to name the general type of region, and account, if he can, for its present appearance, after knowing the nature of the geological formations.

Springfield has a Science Museum conveniently situated with respect to the high school, which contains many objects of local interest and value for science teaching. Classes are taken there and are given short talks and shown specimens, connected with the topics they are studying at the time.

A Year's Experimental Work in Physics.

By A. M. LONGNECKER, Altoona, Pa., High Schools.

As a necessary introduction to all laboratory work the student must become acquainted with a few measuring instruments, and to do so a few experiments should be performed by him in making simple measurements. We often find students totally unacquainted with the metric system, and hence the first experiments ought to be along the lines of simple measurements. Amongst these we may name the following six experiments that we deem necessary. None are complicated, but they are selected for simple illustration and acquaintance with measuring devices. These experiments, to cover the elementary phases of a first year's course in physics, and to be performed by pupils of the third and fourth years of a high school course are as follows:

1. The use of a meter stick. Measuring the distance between two points on a table or measuring the table itself. Here the pupil ought to do very accurate measuring, even trying to read to tenths of a millimeter. Also measure in the English system and get the relation between an inch and a centimeter.

2. To measure the length of a straight line drawn on the page of a note book. To measure with a pair of dividers on a diagonal scale. This experiment teaches a more accurate method than number one above, and does not depend upon a mere guess.

3. To find the gauge number and diameter of wire by means of a wire micrometer and a wire gauge. This experiment is of great importance and much practice should be given, since it is of so much importance in electrical wires, and teaching in electricity.

4. To find the inside and outside diameter of some tube and to find the volume of metal in tube by the aid of a vernier steel caliper.

5. To teach the use of a protractor in measuring the angles of a triangle drawn on the note book, and also to find the area of same triangle.

6. To find the mass of a body. (a) By double weighing—that is, weigh body on one side of a beam balance and then on the other side. (b) By means of an analytical beam balance, if there is one in the laboratory—and no laboratory should be without at least a moderately good analytical beam balance.

MECHANICS OF SOLIDS.

With the foregoing six simple problems in measurements we deem the pupil sufficiently prepared to enter the Mechanics of Solids, where at least twelve experiments should be performed to understand the subject from an introductory standpoint. A good set of experiments is as follows:

1. To measure the tenacity of a wire by means of a draw-scale or a specially-made contrivance to prevent a recoil of the spring when the wire breaks.

2. To calibrate a spiral spring, or, better, calibrate a Jolly balance and find its modulus.

3. To verify the laws of elasticity of bending as exhibited by uniform bars or rods. In this experiment a vernier micrometer and electrical contact must be employed to procure good results.

4. To verify the laws of elasticity of torsion as exhibited by uniform rods or bars.

5. To verify the rule for compounding concurrent forces acting at an angle, and also for compounding parallel forces acting in the same direction.

6. To verify the laws of accelerated motion by means of a ball rolling down an inclined plane, or by a weighted pulley down a wire stretched rigidly at ends with a turn-buckle.

7. The pendulum: Laws of, and to find the value of gravity.

8. To verify the laws of equilibrium of the three classes of levers.

9. Laws for the pulley, one fixed, several movable, block and tackle.

10. To prove law for wheel and axle.

11. Law for inclined plane.

12. To measure the coefficient of friction between two sliding surfaces.

The foregoing experiments in the mechanics of solids are all included in entrance requirements. Many more could be added, but only such were selected as are used in class-work and can readily be performed. Each experiment, too, can be adapted to prevailing conditions. Much or little time can be devoted to each, and they can be performed in a laboratory containing only the simplest apparatus. That for the laws of torsion requires a good piece of apparatus to give good results.

In a study of the Mechanics of Fluids the most simple, yet fundamental, experiments are the following eight:

MECHANICS OF FLUIDS.

1. To verify the laws of capillary action by means of five or six capillary tubes, each of different bore, using different liquids at different temperatures.

2. Archimedes' principle: To show that the buoyant force of a liquid on a submerged body is equal to the weight of the liquid displaced by the body.

3. To find the density of a body heavier than water: (a) When the body will not dissolve in water; (b) when it will dissolve in water, but not in a liquid whose density is known.

4. To find the density of a body lighter than water.

5. To find the density of a liquid: (a) By density bottle method; (b) by Hare's method; (c) by glass sinker method.

6. To verify the laws of liquid pressure.
7. Boyle's law.
8. The law for the siphon: To prove that the rate of flow of a liquid thru a siphon is proportional to the square root of the difference of lengths of the arms.

LIGHT.

In the consideration of Light the most essential experiments may be included in the following list:

1. Images thru small apertures: To ascertain how images are formed thru small apertures and what conditions govern their size, brightness, and definition. This experiment is especially useful as an introduction to modern photography.
2. To measure the candle power of at least three incandescent lamps and compare with a standard candle, or, better, with a standard incandescent lamp.
3. To verify the law of reflection of light by a simple plane mirror and pin method.
4. To measure the angles of a triangular glass prism, either by the spectrometer or straight-edge method.
5. To measure the focal distance of a concave spherical mirror.
6. To determine the index of refraction of glass by means of pin method, or, better, by the optical disk, and, if possible, by the trigonometric relations of natural sines.
7. To measure the focal distance of a convex lens and to study the nature of images formed by a convex lens.
8. To show the continuous and discontinuous spectra by means of a spectroscope or spectrometer and map the most important lines relative to a certain standard line like the yellow of sodium light.
9. Displacement in a ray of light produced by a plate of glass with parallel edges.

HEAT.

The salient features to develop the fundamental points in heat may be considered in the following:

1. To correct the readings of a thermometer for errors due to the incorrect placing of the freezing-point and the boiling-point, and to construct a graph whereby all readings in the study of heat may at a glance be read correctly.
2. To find the coefficient of linear expansion of several metallic rods, as iron, brass, and copper.
3. To find the coefficient of cubical expansion of a liquid by means of a density bottle or by glass tubes, making the usual allowance for the theoretical expansion of glass.
4. To determine the melting point of such substances as paraffine, beeswax, and tallow by placing these substances in drawn-out capillary tubes.
5. To determine the boiling points of such liquids as alcohol, glycerine, or turpentine by placing same in test tubes immersed in hot linseed oil.
6. To determine the dew point.
7. To determine the specific heat of a solid.
8. To determine the specific heat of a liquid.
9. To determine the heat of fusion of water.
10. To determine the heat of vaporization of water.

MAGNETISM.

In Magnetism the following experiments should be performed to get the simple fundamental ideas of the subject:

1. To find the position of the poles of a bar magnet.
2. To measure the relative magnetic trans-

parency of thin sheets of various substances with the aid of a simple magnetoscope.

3. To compare the strength of the poles of a bar magnet.

4. To find that the magnetic effect due to the earth upon a vibrating magnet varies in different parts of the laboratory.

5. To map the lines of force in the various combinations of magnets by drawing the lines of force, or, better, to make blue prints of the various fields.

STATIC ELECTRICITY.

In static electricity two experiments should form the individual work of a student; viz.:

1. To determine the kind of electrification of a charged body by means of the inductive effect upon a charged electroscope.
2. A study of condensers, arranged in series and parallel, either plate or Leyden jars charged from a static machine.

CURRENT ELECTRICITY.

The manifold experiments possible in current electricity afford usually more than ordinary interest to a beginner in this subject, yet the very variety usually presents more or less difficulty to the teacher in covering the subject satisfactorily. We have, after careful consideration and trial for work in laboratories, used the following with good results:

1. The effect of a current upon a mounted magnetic needle, first by simple form and then by the use of fifteen coils on a tangent galvanometer, showing the results of current thru one to fifteen coils in succession with both direct and reversed current.

2. To construct an electromotive series out of several pairs of different metals immersed in several liquids (chemicals).

3. The study of connecting cells in series, parallel, parallel series and series parallel, and ascertaining the most efficient amperage in each case when external resistance is small or great.

4. Resistance by substitution by means of a tangent galvanometer or a shunted D'Arsonval galvanometer.

5. Resistance by Wheatstone Bridge method, using a fairly sensitive galvanometer across the bridge. Resistance in series and parallel should both be employed here, and law for parallel or shunt be firmly impressed upon the mind of the experimenter.

6. Resistance by the potentiometer method by the use of voltmeter and ammeter alone.

7. To calibrate a tangent galvanometer or to find the constant of a D'Arsonval galvanometer.

8. To show the working of a simple telegraph without and with a relay.

9. To measure the internal resistance of a battery either by the unsatisfactory method of the Wheatstone Bridge or, better, by the half deflection method.

10. A study of a simple dynamo and motor.

In this outline the consideration of sound is wholly omitted for the reason that in one year's course in physics either parts must be omitted or else all portions must suffer for a lack of time. To obviate this difficulty I deem it proper to omit the entire subject of sound, which, if the teacher sees fit, may be taught by experiments given by the instructor from the lecture table. Every experiment in the outline involves quantitative relations except one or two; and thus each one requires a series of data to be procured by observation; and nearly all require calculations on the part of the student which will result in increased interest and healthy growth.

Laboratory Exercises in Physical Geography. IV.

RECOMMENDED BY THE NEW YORK STATE DEPARTMENT OF EDUCATION.

EXERCISE 16.

- OBJECT.** (a) Make a contour map from a model.
(b) Interpret the contour map.

MATERIAL. Ruler; dividers; a flat stick 6 inches long, containing six holes for wire nails at $\frac{1}{2}$ inch intervals from one end; small clay models of an oceanic island about 5 inches long, 3 inches wide, and $3\frac{1}{2}$ inches high, steep on one side, sloping gently on another and containing a river valley; a simple topographic sheet for comparison.

DIRECTIONS. *To make map.* (1) Carefully draw an outline of the island, using dividers for measuring distances and determining position of prominent points.

(2) Place a small nail in the lower hole of the stick and stand stick at the edge of the island on the base (which represents sea level). Move the stick slowly around the model so that the nail will scratch a line on the clay $\frac{1}{2}$ inch above the base.

(3) Place nail in the second hole, and repeat.

(4) Continue until the top is reached, using the longer nail when necessary. In this way six lines at levels $\frac{1}{2}$ inch apart will have been made on the model.

(5) Placing stick at the edge of the island at some prominent point, measure with dividers the horizontal distance between upper hole and the nearest point on the highest contour line. Place dividers on your drawing so as to locate this point of the upper contour in your drawing of the island.

In the same manner find the position of other prominent points in the upper contour and draw the contour line.

(6) In the same manner find the position of at least four points in each lower contour and then draw lines.

(7) Mark outline of island "Sea level." Mark on the fifth line above sea level, its elevation in feet, the vertical scale being $\frac{1}{2}$ inch to 100 feet.

(8) *To interpret map.* What is the length and width of the island, if the horizontal scale of the model is $\frac{1}{2}$ inch to the mile?

(9) How many contour lines are there? What is the height of the island? What is the vertical distance between contour lines (contour intervals)?

(10) What is the advantage of having occasional heavy lines? How many feet are there between two such lines in your map? How many would there be if the contour interval were 20 feet?

(11) What conditions in the model cause the lines to be far apart? Near together? What causes a closed curve?

(12) On the Government topographic sheet find the following, and explain what they stand for: (a) blue lines; (b) heavy black lines with short cross lines; (c) two fine parallel black lines; (d) small black squares.

(13) In the same sheet locate the following: the top of an elevation; a steep slope; a gradual slope; a valley. What is the greatest height represented?

EXERCISE 17.

OBJECT. Make vertical sections from contour maps.

MATERIAL. Contour map drawn in Exercise 16; cross-section paper; dividers; ruler.

DIRECTIONS. (1) Draw on the map a dotted straight line lengthwise of the island, and another crosswise.

(2) Draw a vertical section or profile of the former as follows:

(a) Make horizontal scale the same as that of map and the vertical scale 1 inch to 100 feet.

(b) Place a strip of paper along the dotted line.

(c) Make marks on the strip at the contours, and write the altitude at each mark.

(d) Draw a heavy base line on the cross-section paper.

(e) Lay the strip on this line and transfer marks to it.

(f) At the proper distance according to scale place above each mark a dot to represent the altitude of the surface at that contour.

(g) Connect the dots by a line and the result is the required profile.

(3) Proceed in the same manner to construct the second profile.

(4) All profiles are made in a similar manner tho the scale may be changed.

EXERCISE 18.

OBJECT. Make a contour map from given data.

MATERIAL. A sheet of cross-section paper; ruler.

DIRECTIONS. (1) Let the horizontal scale be $\frac{1}{2}$ inch to the mile, and the contour interval be 20 feet.

(2) Draw an 8-inch square.

(3) Near the east margin draw a line representing the seashore.

(4) Represent a coastal plain extending along the shore and inland 8 miles to a height of 80 feet, crossed by a river, rising 10 miles inland and flowing into the sea.

(5) From the coastal plain at the west represent a range 8 miles long and 3 miles broad rising into two low hills, one 250 and one 220 feet high, separated by a gap 160 feet high near the source of the river. The hills are steep on the west and have a more gradual slope on the east.

(6) At the west foot of the hills the plain is 100 feet high rising to 140 feet further west.

(7) Make the land near the mouth of the river swampy. (Use the same symbols as are used in the United States Geological Survey topographic sheets.)

EXERCISE 19.

OBJECT. Make interpolations between meridians and parallels.

MATERIAL. Map of New York State or of some other political division of territory; English metric ruler.

DIRECTIONS. (1) Measure accurately to tenths, in inches or in centimeters the distance between the two successive parallels and meridians which include the place to be located.

(2) Measure the distance from the lower numbered parallel or meridian to the place to be located.

(3) Calculate (using decimals) the ratio of the smaller distance to larger distance.

(4) Record the number of degrees between each pair of consecutive circles used.

(5) Compute the number of degrees from the lower numbered circle to the place whose latitude and longitude are to be interpolated.

QUESTIONS. (1) Where does a degree of latitude have the greatest length? Why?

(2) Account for the fact that two places in the latitude of Quebec having the same difference in longitude have a less difference in miles than two places in the latitude of Jacksonville.

Reference Books in Physics.

List arranged by the Eastern Association of Physics Teachers, for the use of secondary schools.

General Treatises.

TEXT-BOOK OF GENERAL PHYSICS.

Author, Joseph S. Ames, Ph.D. Published by American Book Company. Size, 5 1-2 in. x 8 1-4 in. Pages, 768. Date, 1904. Price, \$3.50.

A thoroly modern college text-book designed (a) to give a concise statement of the experimental facts on which the science of Physics is based, and (b) to present the accepted theories, which correlate and explain these facts. It is one of the most satisfactory books for general teachers' reference. Parts of it are too mathematical for secondary students, but many portions are entirely within range of the pupil's study. Very little attention is given to the familiar applications of the principles enunciated. There are about three hundred cuts.

PHYSICS.

Edited by George A. Barker. Published by Henry Holt & Co. American Science Series. Advanced Course. Size, 5 1-2 in. x 8 3-4 in. Pages, 902. Date, 1892. Price, \$3.50.

A general treatise written from the standpoint of matter and ether. All the phenomena of physics are considered as due to the condition of matter and ether stress. Geometry and trigonometry are used to some extent. Illustrations rather few, mainly diagrammatic. Little general description of experiments or apparatus.

UNIVERSITY PHYSICS.

Author, H. S. Carhart. Published by Allyn & Bacon, Boston. Size, 7 1-2 in. x 5 1-2 in. Price, per vol., \$1.50. Vol. I, Topics: Mechanics, Sound and Light. Revised and rewritten edition, 1906. Pages, 346. Vol. II, Topics: Heat, Electricity, and Magnetism. Revised and rewritten edition, 1904. Pages, 456.

This is a comprehensive treatment of the principles of Physics, a descriptive work covering the whole ground. A fair knowledge of algebra, geometry, and trigonometry would be needed for an intelligent understanding of many of the discussions. There is very little description of experiments and the majority of the illustrations are diagrammatic. It contains but few references to applications of principles either by descriptions or by problems. The major part of the book would be above the average secondary school pupil, but it is an excellent reference book for any one having the necessary mathematical knowledge.

GANOT'S PHYSICS.

Atkinson's translation. Published by William Wood & Co., New York. Size, 8.5 in. x 6 in. Pages, 1,169. Date, 17th edition, enlarged, 1905. Price, \$5.00.

This is a general treatise on the principles and applications of Physics. It corresponds closely in its arrangement to the average secondary school text-book. It contains many illustrations of apparatus and descriptions of experiments. The treatment is mainly non-mathematical. The appendix contains a number of problems. Very little of it should be beyond the grasp of a secondary school pupil. This last edition is one of the most satisfactory descriptive treatises for general reference.

PRACTICAL PHYSICS.

Authors, Glazebrook & Shaw. Published by Longmans, Green & Co. Size, 7 in. x 4 1-2 in. Pages, 689. Date, 1905, revised, enlarged. Price, \$2.50.

A thoro book in which the facts are put clearly and with mathematical exactness. It is on the whole too difficult for secondary school pupils. It was written for the assistance of teachers and advanced students in physical laboratories, and is worthy of their attention. It covers the whole range of subjects in Physics. It contains many mathematical formulae and 134 wood cuts.

GENERAL PHYSICS.

Authors, Charles S. Hastings, Ph.D., and Frederick E. Beach, Ph.D., of Yale University. Published by Ginn & Co., Boston. Size, 6 in. x 8 1-2 in. Pages, 768. Date, 1899. Price, \$2.75.

This book is developed from the idea that an understanding of energy is absolutely essential to the subject and that elementary mechanics must be regarded as the logical basis of the whole science of Physics. Hence the treatment of Mechanics is more complete than is ordinarily the case. The continuity of the science is emphasized.

To read this book, a working knowledge of trigonometry is necessary. Deserving of special notice are the chapters on Change of State, Thermodynamics, Kinetic Theory of Gases, Electric Fields, and Electric Waves. The cuts (495) are new, well executed, and up to date. The tables of constants are numerous and complete. Many problems are appended to the various chapters. Designed to be a college text-book.

THE ELEMENTS OF PHYSICS.

Authors, Edward L. Nichols and William S. Franklin. Published by The Macmillan Co. Size, 6 in. x 9 in. Numerous illustrations. Vol. I, Mechanics and Heat. Pages, 290. Revised, 1903. Price, \$1.90. Vol. II, Electricity and Magnetism. Pages, 303. Entirely rewritten. Price, \$1.90. Vol. III, Light and Sound, Pages 262. Rewritten. Price, \$1.50.

This is a college text-book. The volumes are written for use in such institutions as give their undergraduates a reasonably good mathematical training. It is intended for teachers who desire to treat their subject as an exact science, and who are prepared to supplement the brief subject-matter of the text by demonstrations, illustrations, and discussions from the fund of their own knowledge. A modern scientific work. Knowledge of calculus is necessary for intelligent reading. An excellent book of reference for teachers.

A TEXT-BOOK OF PHYSICS.

Authors, J. H. Poynting and J. J. Thompson. Published by Charles Griffin & Co., London. Size, 6 in. x 9 in. Pages, about 350 in each volume. Date, 1906. Many illustrations. Vol. I, Properties of Matter, \$4.25. Vol. II, Sound, \$2.75. Vol. III, Heat, \$2.90. Vol. IV, Magnetism and Electricity. Vol. V, Light.

This is a valuable and very comprehensive treatise, designed to be a complete text-book for students who lay stress on the experimental part of Physics. The mathematics used is mostly elementary. The book is written in the English style. The descriptions are all minutely detailed, and cover the whole field of Physics. Vols. IV and V will soon be issued.

A TEXT-BOOK OF PHYSICS.

Author, W. Watson. Published by Longmans, Green & Co. Size, 5 1-2 in. x 7 1-2 in. Pages, 896. Date, 1899. Price, \$2.90.

This is one of the best general reference treatises on Physics. It assumes some knowledge of the elements of physics, also elementary algebra, geometry, and trigonometry in certain portions. There is no attempt to describe experiments illustrative of the various phenomena, but the discussion of phenomena and the principles involved is very complete. Much of it is valuable for high school pupils, a part of it is too difficult. It is intended to be a college or scientific school text-book. The 564 figures are almost entirely diagrammatic.

THE NEW KNOWLEDGE.

Author, Prof. Robert K. Duncan, of Washington and Jefferson College. Publisher, A. S. Barnes & Co., 11 East 24th Street, New York. Size, 5 1-2 in. x 8 1-4 in. Pages, 263. Date, 1905. Price, \$2.00.

This is an excellent resume of the modern theories regarding the composition of matter and the conservation of energy. In clear simple language it states the newest ideas evolved from the study of radio-activity. It is interesting reading for the student and the teacher because of its comprehensiveness and its plain presentation of the subject. It is well worth a place in every physical and chemical laboratory.

MATTER, ETHER, AND MOTION.

By Prof. A. E. Dolbear. Published by Lothrop, Lee & Shepard Co. Size, 5 1-4 in. x 7 3-4 in. Pages, 334. Revised edition. Price, \$2.00.

The author discusses the properties of matter and the characteristics of the ether with their possible relation to each other. The chapters on the origin and nature of heat, ether waves, and electricity are written in a manner which makes clear recent views. It is likely to secure and hold the interest of any reader, and to be stimulating and suggestive. The subject is treated entirely from the standpoint of the molecular and ether theories.

MATTER, ENERGY, FORCE, AND WORK.

Author, S. W. Holman. Published by the Macmillan Co. Size, 5 in. x 7 1-2 in. Pages, 257. Date, 1898. Price, \$2.50.

A discussion of "fundamental physical concepts." It is intended for the teacher or advanced student. It is particularly valuable for its statements of various theories of matter and energy. The treatment is historical as well as critical, and the reader can feel that in some measure he has covered the entire ground. Le Sage's Theory of Gravitation and the Vortex Atom Theory is discussed in an especially interesting manner. Portions of the books would be read with pleasure and profit by high school pupils scientifically inclined.

WAVES AND RIPPLES IN WATER, AIR, AND ETHER.

Author, J. A. Fleming, F. R. S. Published by D. Van Nostrand Company. Size, 7 1-4 in. x 5 in. Pages, 299. Date, 1905. Price, \$2.00.

This contains a course of Christmas Lectures given before the Royal Institution, London. The discussion is remarkably clear, simple, and free from technicalities. It presents many experiments that are both interesting and simple and is a storehouse of facts concerning waves of all kinds. It will perhaps prove more helpful to the teacher than to the class; and yet it is just the book to which to send boys and girls for the investigation of specific topics. The best thing in the book is the brief, simple, and thoroly intelligent account of the nature and production of electric waves.

MOLECULES AND MOLECULAR THEORY OF MATTER.

Author, A. D. Risteen. Published by Ginn & Co. Size, 6 in. x 8 1-2 in. Pages, 223. Date, 1895. Price, \$2.00.

This is one of the very best discussions of the molecular theory. It includes: I, General Considerations; II, Kinetic Theory of Gases; III, Molecular Theory of Liquids; IV, Molecular Theory of Solids; V, Molecular magnitudes; VI, The Constitution of Molecules.

It uses some calculus, but is, in the main, non-mathematical. The history of molecular theories is discussed, and their development traced.

MODERN THEORY OF PHYSICAL PHENOMENA.

Author, Augusto Righi. Translator, A. Trowbridge, University of Wisconsin. Published by The Macmillan Co. Size, 5 in. x 7 1-2 in. Pages, 165. Date, 1904. Price, \$1.10.

Written to interest the greatest number of readers in the new physics. Treatment is very elementary and readable. It contains chapters on: I, Electric Ions and Electrons; II, The Electrons and the Phenomena of Light; III, Nature of the Cathode Ray; IV, The Ions in Gases and in Solids; V, Radio-Activity; VI, Mass Velocity and Electric Charge of the Ions and Electrons; VII, The Electrons and the Constitution of Matter.

GRAMMAR OF SCIENCE.

Author, Karl Pearson. Published by Adam & Chas. Black, London. Size, 5 1-2 in. x 9 in. Pages, 548. Date, 1900. Price, \$2.50.

A very exhaustive examination of the philosophical bases of the theories of science. Useless for the pupil and very useful for the teachers who seek fundamentals in their scientific thinking.

FRAGMENTS OF SCIENCE.

Size, 8 in. x 5 in. Vol. I and II. Date, 1875. Price, \$4.00.

NEW FRAGMENTS OF SCIENCE.

Size, 8 in. x 5 in. Pages, 497. Date, 1892. Price, \$2.00. Author, John Tyndall. Published by D. Appleton & Co.

These books contain essays on "Matter and Form," "The Scientific Use of the Imagination," "On Radiation," "Radiant Heat," also "About Common Water," "Atoms, Molecules, and Ether Waves," "Life in the Alps," and many other topics not directly connected with our instruction in Physics. Tho published several years ago they are well worth reading and will always be so. They are valuable for both pupil and teacher. The author's name is sufficient guaranty that the essays are accurate and interesting.

EXPERIMENTAL SCIENCE.

Author, George M. Hopkins. Published by Munn & Co. Size, 6 1-4 in. x 9 1-2 in. Two volumes. Pages, 1,100. Date, 1902. Price, \$5.00.

Treats in a popular manner the experimental demonstration of physical laws and resulting phenomena. Contains specific directions for the construction of many pieces of apparatus, especially electrical. Would appeal strongly to a pupil in general physics who was of a constructive turn of mind. Nine hundred illustrations. One of the best books for a high school library.

INTRODUCTION TO ASTRONOMY.

Author, Forest R. Moulton, Ph.D. Published by The Macmillan Co. Size, 5 1-2 in. x 7 1-2 in. Pages, 555. Date, 1906. Price, \$1.60.

Not only is this an excellent modern Astronomy on the laboratory plan, but it is included in this list because it contains many chapters correlating physics with astronomy. These subjects are prominent: Newton's Laws, Construction and Use of Telescopes and Other Optical Instruments, Earth's Density, Laws of Motion, Falling Bodies, Gravitation Laws, Atmospheric Conditions, Sun's Light and Heat, The Spectroscope.

SCIENTIFIC AMERICAN CYCLOPAEDIA OF RECEIPTS, NOTES AND QUERIES.

Published by Munn & Co. Size, 9 in. x 6 in. Pages, 725. Double columns, fine print. Date, 1900. Price, \$5.00.

The title describes the book. A very valuable and reliable work.

INTERNATIONAL CATALOG OF SCIENTIFIC LITERATURE.

Publisher, Harrison & Sons, 45 St. Martin's Lane, London.

Those who can have access to some large library, as the Boston Public Library, will find this a very valuable guide to Scientific Literature. It devotes to Physics alone, each year (beginning 1902) one complete volume of 300 to 400 pages in giving a full list of books and periodical articles issued during the previous year. This takes up articles in all departments of Physics as issued in various languages. It is well classified by authors and by subjects, and is of great value to a teacher who is making a thoro study of some branch of Physics.

Back to School.

(A Boy's Soliloquy.)

This thing of goin' back to school is not so awful bad, Outside, I growl like everything, inside, I'm sorta glad.

When every day's a holiday it don't seem very grand, But when we git a ha'f a day, we yell to beat the band.

The boys are all together now, an' we can make up games, An' play at somethin' that's worth while instead of callin' names.

The fights we had in summertime are done an' clean fergot;

The boy that licked us hardest, our chum is, like as not.

The gangs of all the neighborhood are blended into one,

An' at recess an' after school, unite in all the fun.

Another thing, in goin' back, I git a teacher new, An' tho I like her in my heart, I keep my likes from view.

I have some joy in knowin' that there's someone boss, yo' see,—

The teacher that is "easy" can't git no respect from me.

She may be strict, but if she's square, with kindness in her eye,

She can lead me thru ol' Jordan's stream—I'll follo' wet er dry.

I know I get cantankerous, an' growl an' look real black,

But underneath my left fifth rib, I'm glad that I am back.

Philadelphia.

JOHN L. SHROY.

Public Opinion Concerning Education

As Reflected in the Newspapers.

Pay Now.

[Boston American].

A few intelligent men are trying to persuade the public that money should be spent to protect the physical health of public school children as well as to increase their intellectual knowledge.

But whenever anybody talks about doctors to inspect the children's breathing apparatus, the foundation of life; or their eyes, so necessary to taking in knowledge; or their teeth, absolutely essential to the organs that supply good blood to the brain, there goes up a roar of economy and of protest.

We have in mind to-day particularly the question of looking after the teeth of the children in the public schools.

Some, shortsighted, ask: "What, would you spend the money of the public to take care of the teeth of the people's children?"

Yes, indeed we would. You would also, if you could realize that the welfare of the public depends on the health of the children.

You would be willing to spend a thousand dollars of public money now on children's teeth, and eyes, and adenoid growths, if you knew that the expenditure would save a hundred thousand dollars in the future.

Unfortunately, our minds are so much on money, they run so much in the old rut, that many of us shiver at the mere idea of spending money to fight disease.

Some protests come from doctors and dentists who fear that if the city took care of the teeth, throats, or eyes of school children, they, the doctors, might lose some money. They are horrified at the idea that any child whose parents can afford to pay a doctor should have a doctor for nothing.

We would say to them, "Can't you see that the healthy child that survives is more profitable to you in the long run? Don't you know that every child taught to take care of its teeth by the public school dentist in early years would always be a paying patient for dentists occasionally?"

Value of Playground Work.

[Baltimore American.]

The request made by the Children's Playground Association for an appropriation of \$6,000, brings before the public an educational and philanthropic movement the scope of which is seldom, if ever, appreciated by those who do not come directly in contact with it. To the uninitiated the "Playground" Association means simply an organization which teaches children how to play, or, rather, gives them the opportunity to play under circumstances and conditions rather better than those to which they are accustomed, and in this way it is considered a work merely superficial in its results.

As a matter of fact, it is doubtful if there are many, if any, organizations that have the far-reaching results which can be attributed to the playgrounds. It is acknowledged that the training and life of the child is an important factor in the life and actions of the man or woman. The playground is conducted in this spirit and with this idea continually in view. The child is taken from the street, where it may form undesirable friendships and contract undesirable habits, where it may imbibe the rudiments of all that is crude and evil, where, for the most part it is entirely without any

supervision but that given by the officer of the law, who merely sees that it does not commit any flagrant breach of law. It is placed under a trained supervision, which considers its individual needs; its individual demands. Under the guise of play, sport, and athletics, its mind is trained and directed, and before it has very long been an attendant at the playground, it has a good foundation laid for any training which it might select; system and order mean something to it.

Equalization of Salaries.

[New York Post.]

The spectre of equal salaries for men and women teachers refuses to be laid. If the State will not grant the demand or request of the women teachers, the city must. But for the first time a doubt is raised as to the real beneficiaries of the measure. The men teachers were protesting last year that, if any change in the salary schedules was made, it should be in their favor. The reasoning was this: Men as a rule had a larger number of persons dependent upon them, and their living expenses were higher. Therefore, if a complete feminization of the public schools was to be averted, still higher salaries must be paid to the men. Now comes, however, a woman teacher to argue that equalization really jeopardizes the tenure of herself and all her sisters. At present, there is a premium on the employment of woman as teachers. The city enjoys a virtual rebate whenever it replaces a man by a woman. Take away that rebate, and, if men really are the more desirable as teachers, they will be preferred for every position. The movement for equalization happens to be headed by one of the few women in the system who do receive the same salary as men for doing the same work, but it is a fine thing to be provided with arguments which will floor opposition from either side.

Human Economy.

[Scranton (Pa.) Republican.]

With the experiment of the George and the Carter Republics as a guide, with the space already in possession of the city on which the boys' farm and workshop might be located, it would cost very little more to conduct such a work than is now paid out for the keeping of incorrigible boys at Glen Mills, the House of Detention, and other places. To say nothing of the number that will be seen daily entering lives of vagrancy.

Seldom a week passes when some little lad is not brought before court or police as so bad that his parents can do nothing with him. Place him in such a school of good citizenship as the Junior Republic, and he would be an asset, instead of a cost, and a menace to the State. With the model farm now under the direction of the Scranton Poor District, there should be a Junior Republic started instead of ridding ourselves of the responsibility of these children who are sent from pillar to post, and who, in the majority, finally land in criminal cells. No reformatory that was ever built is as good for the boy as the right kind of a home, and a self-governing colony, established where out-of-door work is part of the routine, where wholesome food, busy days, and happy surroundings replace former environment, will be found to be the next best thing.

That tired feeling is a burden you need not carry. Hood's Sarsaparilla will rid you of it and renew your courage.

The News of the World.

The State Election Board of Oklahoma has declared, Charles H. Haskell, the Democratic candidate, elected Governor.

The submarine cable from New York to Havana was completed on October 16. Instead of thirty minutes as before, it will in future take only three minutes to send a message to Havana.

Prof. Alexander Graham Bell's big air machine, built on the kite plan, is nearly ready for a test.

King Charles of Portugal signed a decree on October 14, postponing municipal elections thruout Portugal, until after the application of the new reformed administrative code.

Theodore Roosevelt Jr. is among the cripples in the Harvard football squad. He will not be able to play for a fortnight or so.

The General Manager of the Grand Trunk Railway system has announced that the Directors mean to establish fleets of fast steamers on both the Atlantic and the Pacific. The Grand Trunk will compete with the Canadian Pacific Railway on both oceans.

The German Emperor and Empress expect to visit Queen Wilhelmina of Holland this fall.

A new law has lately gone into effect in Italy. It provides that in future railway employes shall come under the same regulations as employes of the other departments of the Government. In future, railroad men who take part in strikes will be liable to punishment for misdemeanor.

The British railway companies recently sent an unfavorable reply to the demand of the Amalgamated Society of Railway Servants for the recognition of their union. A general strike may result.

The Chinese Government has issued another imperial edict of reform. It orders the Board of Revenue to introduce a uniform system of weights and measures thruout the Empire, within six months.

Mr. Taft, our Secretary of War, and Viscount Terauchi, Minister of War of Japan, are warm friends.

During Mr. Taft's stay in Tokio the two held a long confidential conference on the general relations between their two countries.

The *Lusitania* made a record delivery of transatlantic mail when she reached New York on October 11. Postmaster Morgan said that even quicker record would have been made if the Cunard Line provided English and American mail clerks on their vessels, as many other lines do. The mail all had to be sorted after it reached New York.

The Philippines Commission has authorized the creation of a Permanent Public Utilities Commission. It consists of three members, who have power to adjust, increase, or reduce the rates to be charged for all utilities. The law on rates is very broad. It covers every utility now in existence, and provides for those that may exist in future.

Crown Prince Yoshihito, Prince Arisugawa, ex-Premier Katsura, and Admiral Togo, with their suites, are making a tour of Korea. Their purpose is to strengthen friendly relations between Korea and Japan.

Japan is developing a vast colonization scheme.

It will open up over one million acres of land in Korea to Japanese settlement. Japanese officials declare that this will solve the question of Japanese emigration to America.

The Imperial Chinese telegraph administration has established offices thruout Manchuria. New lines have been constructed since the war, and altho some opposition was offered by the Japanese military authorities to their crossing the line of the South Manchurian Railway this difficulty has been overcome. Wires formerly controlled by the Russians have, moreover, been transferred to Chinese hands, and the service is now operating in all centers of importance except Antung. All offices accept English messages.

Sunfish to Kill Germs.

The city of Pittsburg has imported 70,000 sunfish. They are being placed in the streams in the parks, and a large number in the reservoirs. Another batch will be put soon in the Alleghany River near the pumping-station at Brilliant.

Dr. Edwards, of the Board of Health, says that if there is anything a sunfish likes it is a typhoid fever germ. The fish are said to be sure death to malarial germs also. It is hoped that they may prevent a typhoid fever epidemic from visiting Pittsburg next summer.

Washington Roller Skate Brigade.

On Monday morning, October 21, Government department clerks, both men and women, in Washington, went to their work on roller skates. They were the pioneers.

It is hoped that more and more will follow their example. There are eighteen thousand department clerks in Washington. The clerks in stores and private offices may also adopt the roller skate habit. It is a simple and easy way of getting about, and saves carfare.

Owing to the crowded condition of the street-cars, the Post-Office Department has formed an organization whose members have agreed to go to and from their work on roller skates.

The Frithjof Lost.

The Arctic steamer *Frithjof* was lost with her captain and fifteen men, off the coast of Iceland, on October 5. She was a veteran of the Arctic exploration service.

William Ziegler employed the *Frithjof* for the expedition which he sent out in search of the North Pole in 1901.

Foreign Vessels Carry Our Coal.

On October 12 the Secretary of the Navy awarded contracts for carrying coal for the use of Admiral Evans' fleet on the trip to the Pacific. The awards were all to the owners of foreign vessels. The coal to be delivered is American coal.

A New Railway in Norway.

Consul F. S. S. Johnson, of Bergen, reports that the Norwegian Government proposes to open the new railroad to Christiania in November next. A tourist may go by rail as far as Gulsvik and then drive about twenty-eight English miles to Lake Kroderen, where rail communication is had by way of Kroderen, as well as Drammen, with Christiania. It is expected that the overland route to the capital will be made in less than a day, whereas at present it takes sixty or more hours to go by steamer to Christiania.

Marconi's Great Success.

Eleven years ago, in May, 1896, Marconi announced in New York that he had discovered how to flash messages thru space without wires or cables. His statements were disbelieved. Even expert electricians disputed his predictions of what could be done by his application of the Hertzian waves. He has now proved himself right.

Many prominent men sent messages of enthusiastic congratulation. Among these were the Duke of Argyll, Sir George Goldie, Field Marshall Viscount Wolseley, Alfred Austin, the English Poet-Laureate, and Premier Clemenceau of France.

Communication between the Marconi Wireless Station at Glacé Bay, N. S., and Clifden, the Irish station of the Marconi Company, opened on schedule time.

Mr. Knight, traffic manager of the Marconi Company, says that in another week it will be ready to transmit private or commercial messages.

Wireless Between Continents.

The Marconi Company opened its transatlantic wireless service on October 17. The first message was transmitted from London by way of Ireland to Cape Breton, Nova Scotia, thence to New York. It was from Privy Councillor Lord Avebury, formerly Sir John Lubbock, to the *New York Times*.

This is the text of the first message:

"I trust that the introduction of the wireless will more closely unite the people of the United States and Great Britain, who seem to form one nation, tho under two governments, and whose interests are really identical.—AVEBURY."

How to Send a Message.

Messages to be sent across the Atlantic by the wireless system are filed at the local Western Union and Postal Telegraph offices, just as if they were to be sent by cable. They are then sent to Glacé Bay over the wires of these companies. There the Marconi people take up the message and send it across the sea.

Mr. Taft at Hong Kong.

Secretary Taft was warmly welcomed to Hong Kong on October 12. Immediately upon his return he visited the Governor of the Island, Sir Matthew Nathan.

A dinner was given in Mr. Taft's honor by Mr. Wilbur, the American Consul-General. It was attended by many representative Chinese, among whom was Wu Ting Fang, the recently-appointed Minister to Washington.

Mr. Wu spoke in Chinese at the dinner. He said that after he arrived in the United States it would be his duty to continue the friendly relations between this country and China.

Taft Receives Warm Welcome at Manila.

Secretary Taft arrived at Manila from Hong Kong on October 15. His official reception began with a water parade. This was headed by Governor-General Smith, Major-General Leonard Wood, commanding the Division of the Philippine Islands, and Rear-Admiral Hemphill, commanding the Third Squadron of the Pacific Fleet.

The Secretary was escorted to the palace by a detachment of troops and by distinguished American and Philippine natives. There he was formally welcomed by the Mayor of Manila and the Governor-General. In the evening there was an informal reception and concert at the Governor's residence.

Mr. Taft is said to have directed that no liquors be served at the functions in his honor during his stay in Manila.

Filipino Assembly.

Secretary Taft formally opened the Filipino Assembly at the National Theater, Manila, on Wednesday morning, October 16. He made an address repeating his former statements about the Philippines. He said that he did not believe that the people of the Islands would be fit to govern themselves for at least a generation.

The matter, however, was in the hands of Congress. Mr. Taft denied emphatically that the United States had any intention of disposing of the Islands.

At the close of his address Mr. Taft formally called the Assembly to order.

Senor Sergio Osinena, Nationalist, was chosen president. He was formerly Governor of the Island of Cebu. He is a young man, and is highly esteemed by his people.

Japan's Crown Prince in Corea.

The Emperor and Crown Prince of Corea went to Chemulpo on October 16 to welcome Yoshihito, the Crown Prince of Japan.

It was the first time the Crown Prince of Corea had ever ridden on a railway train. He was delighted with the proceeding.

The Japanese Crown Prince landed from a warship, and was greeted at the dock by the Emperor and Crown Prince.

Chemulpo was decorated with triumphal arches and Japanese and Corean flags. The most friendly feeling was shown the visitor.

Long Balloon Voyage.

A mammoth balloon left the Crystal Palace, London, on October 11. The aeronauts hoped to break the long-distance record by a voyage to Russia.

The balloon is equipped with the best scientific instruments and many new inventions. It has air-tight compartments, so that the travelers can keep afloat if their airship falls into the sea.

The balloon crossed the North Sea to Denmark and traveled over Scandinavia with great speed. The aeronauts finally lost their bearings in a dense fog. A perilous descent was made at Broekin, Sweden.

United States Mails on the Lusitania.

Every time the new Cunarders, the *Lusitania* and *Mauretania*, leave New York, they will receive from the United States Government from \$4,000 to \$6,000. They are paid this for their speed in carrying first-class mail matter to Europe.

The only contract this Government has for carrying mails to Europe is with the American Line. This line is paid a subsidy amounting to four dollars a mile on the outgoing voyage, no matter what amount of mail is carried.

New Electric Railway Signals.

Consul J. H. Worman writes from Three Rivers, Canada, that a new system of railway signals has recently been installed on the Intercolonial Railway between Moncton, New Brunswick, and Painswick Junction, after an official test had been made in order to ascertain the feasibility of its general adoption. The system is intended to automatically assist in the prevention of accidents to trains in motion, such as rear-end collisions on single track, derailment, broken rails, misplaced switches, or open drawbridges. Three trains were used in the test, and the signals worked perfectly, the trains being brought to a standstill immediately upon entering the block in which another train was moving.

The Educational Outlook.

Teaching children and parents to brush teeth, says Dr. W. H. Allen in the *New York Evening Post*, is cheaper, pleasanter, and more effective for all parties concerned than filling or pulling decayed teeth. To do for, or give to people who can help themselves is to give up and do up power of self-help.

Consul-General J. W. Ragsdale, of Tientsin, China, reports that the Board of Commerce, Works, and Agriculture, has issued circulars advising Chambers of Commerce to establish commercial training schools along modern lines. Such acts, taken in connection with the imperial plan for compulsory education, show that China's plans for entering into the active life and progress of the world are far reaching and fundamental.

Seattle, Washington, is planning to extend its system of night schools. Last year the attendance numbered 1,300, and it is expected that this year 2,000 will be enrolled.

The applications of thirty-five high schools for State aid under the new high school law were approved by the South Carolina State Board of Education at its last meeting. Under the law and regulations of the Board no school gets more than fifty per cent. of the amount which it uses in the high school department, and no school can get more than \$800. The schools which were approved will average about \$500 each. So that the total disbursement of the State Board of Education was less than \$20,000.

A program of exercises from the State High School at Srinagar, in the famous Vale of Kashmir looks a little strange in this part of the world. It reads:

1. Recitation in English, Sanskrit, and Urdu.
2. Reading of an Urdu Poem.
3. Reading of Annual Report by the Headmaster.
4. Prize Distribution.
5. Whistle Drill.
6. Acting a portion from Shakespeare's "Richard II."
7. Cheers for His Highness the Maharajah Sahib Bahadur.

State Superintendent Martin is joining other State officials of South Carolina in an effort to have salaries raised. The head of South Carolina's school system is receiving less than the man holding similar positions in any of the neighboring States. Alabama pays \$3,000; Georgia, \$2,000; Florida, \$2,500; North Carolina, \$3,000; Tennessee, \$2,500; West Virginia, \$3,000; South Carolina pays \$1,900, which is one of the very lowest in the United States.

The Free Kindergarten Association of Fall River, Mass., recently held its annual meeting. A survey of the year's work convinced the members that the work done had been thoroly worth while. An active winter's campaign is planned by the Association.

The new grammar school at Jamestown, N. Y., was formally opened on October 12. The ceremonies were of the simplest. Mr. Stevens, of the Board of Education, made the only address. He spoke with warmest praise of the efforts of Supt. R. R. Rogers, to whose persistent and earnest efforts the erection of the school is, in large measure, due. It is a handsome thirteen-room building with a capacity of 600 pupils, and supplied with complete modern equipment.

The most interesting feature, however, lies outside the walls of the building. There are three or four acres surrounding which the Board intends to fit up as a playground.

Canal Night Schools.

Night schools for the teaching of English have been opened in the various construction camps of the Erie Canal enlargement scheme. These camp schools—the first of their kind in New York State—are located at Waterford, near Troy. The matter is in the hands of the Society for Italian Immigrants, which provides the teachers and guarantees their salaries. Each of the prospective pupils, however, has already agreed to pay a dollar a month toward the support of the school.

It has long been recognized that the Italian laborer who cannot speak English is at the mercy of the padrone, thru whom, as contractor and interpreter, all business must be done. This gives a fine chance for graft, and the padrone has not been slow to use his power. The only hope of his victims is to learn English.

School Nurses.

Principal Meserve, of the Bowdoin School, is enthusiastic in his praise of the new school-nurse system of Boston. "I only wonder now how we managed to get along without it in the past," said he.

"We have felt the need of some such department for many years, and we never had any doubts as to the wisdom of it from the first day it started.

"In a way, the teachers and principals of schools have always tried to do a certain amount of such work, and, generally, have tried to look out for the well-being of the pupils in our schools. But on account of lack of time we have not been able to accomplish much.

"The nurses now supply the medium between the school and the home, and this is something that we have long felt the want of."

The nurses find that the chief obstacle in the way of their work is the ignorance of the parents. It is only after they have come to know the nurses, and have confidence in them, that they will consent to take their advice. The common idea with people of the more ignorant class, is that children should have infectious diseases while they are young.

The Glory of the State.

Edith Edwards, writing of our State colleges and universities in the *Boston Evening Transcript*, says: "They are characterized by a great alertness, and they are all growing rapidly. Indeed, it is the strength and rise of these schools that is responsible for the failure of Harvard and Yale to show increased attendance during the past few years. And the State university in its spirit, seems to be closely related to its envioning life. This adjustment, this responsiveness, is manifested in the courses that are offered. The pulse of the section is felt in a way undesirable in institutions other than those belonging to the State. Expression is given to a kind of patriotism which might be out of place in other colleges. This is especially noticeable in the study of history and political science.

Words can never paint all that has gone into the foundations of these great institutions, the patriotism of their sponsors, and the patriotism of their intent; the beauty and stateliness and wealth of their architectural equipment, the splendor of their vistas, and the repose of their green campuses, the inspiration of the learning stored in their vast libraries, and the inspiration of the learning expounded day by day by their academicians.

Recent Deaths.

E. R. Pennoyer, of East Orange, died at his summer home at Boothbay Harbor, Me., on October 16. He was a graduate of Wesleyan University and for twenty-three years principal of the Ashland School in East Orange, N. J., which under his care developed from small beginning to be one of the finest schools in the State. He also organized the East Orange High School.

William N. Wilmer died on October 14, at his country home in Albermarle County, Va. Mr. Wilmer was appointed to the New York Board of Education by Mayor McClellan in 1905. During his occupancy of this position he has taken an active interest in all that pertained to the welfare of the schools. His sane judgment and sound common sense was exercised in behalf of steady and conservative progress.

Mr. Wilmer was the youngest son of the Right Rev. Joseph P. B. Wilmer, formerly Bishop of Louisiana. He was educated at the University of Virginia, and studied law at Harvard University and the University of Maryland, being graduated from the latter institution.

He was an intimate friend of President Roosevelt, whose country home adjoined his own.

Edmund L. Patton, D.D., LL.D., died at Washington on October 8. Dr. Patton was one of the leading figures in Southern education of yesterday. Practically his entire life was devoted to the cause of higher education. For fifteen years he was professor of Latin and Greek in Erskine College, and for six of these years also president of the institution. For five years he was president of the West Tennessee College at Jackson, Tenn., and for sixteen years professor in the South Carolina College at Columbia.

Dr. Patton was an old-fashioned scholar, in the very best sense of the term. His name is linked with best educational tradition of our country.

Maurice Loewy, the eminent French astronomer and Director of the Paris Observatory, dropped dead at the Ministry of Public Instruction on October 15, while attending a meeting of the National Board of French Observatories.

Maurice Loewy was a Viennese by birth, and was seventy-five years old. He was educated in his native city, and became one of the most distinguished students in the observatory there. Leverrier, the astronomer, invited Loewy to come to Paris to study under him, and appointed him his assistant at the observatory in 1864. Upon the death of Leverrier, Loewy was placed at the head of the institution. Loewy's chief contributions to the science of astronomy were his discoveries relative to twin stars and to the influence of the planets on the photosphere of the sun.

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Upon rich, pure, nourishing blood by taking Hood's Sarsaparilla, and you will be free from those spells of despair, those sleepless nights and anxious days, those gloomy, deathlike feelings, those sudden starts at mere nothings, those dyspeptic symptoms and blinding headaches. Hood's Sarsaparilla has done this for many others—it will cure you.

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In usual liquid form or in chocolate tablets known as **Sarsatabs**. 100 doses \$1.

Let the Boys Help.

Mr. Paul Kreuzpointner, who has done much for industrial education in Western Pennsylvania in the course of a letter to the *Altoona Tribune*, makes the following valuable suggestion for enlisting the help of our boys in public enterprises.

"If schools have no playgrounds, why not create them? The writer feels sure there is enough patriotism and intelligence in our boys to comprehend the value of school playgrounds; if they were given an opportunity to help create them; if they were made to understand, thru their own public service activity, that it is not a credit to a modern American city to support some sixty saloons and numerous tobacco stores, drinking clubs, secret societies, at great expense, and then have to go begging for children's playgrounds, parks, evening schools, school libraries, and other necessary means which must make this nation strong and intelligent to keep up with the procession."

Bible and Koran.

President Schneider, of Chicago's Board of Education, has expressed his opinion of Bible teaching in the schools, very frankly.

"I would not object to a history of the Bible in the schools as a masterpiece of literature," he said recently. "It should be there, the same as Byron's poems or any other of the great masterpieces, and for the same reason I should be glad to have on the reading list a history of the Koran, or of the religion of Confucius or of Buddha."

"But as for teaching the Bible in the public schools of Chicago—it would be against the Constitution."

The Bible Again.

The question of Bible reading in the schools has been raised in Alabama by Father Patrick T. Costello, of Montgomery. He claims that the exercises with which most of the schools are opened are illegal. State Supt. H. C. Gunnells, in his reply to Father Costello's inquiry and complaint, says:

"The practice is not the result of any order promulgated by the State Educational Department. As a matter of fact, under the law the Superintendent of education of the State has no authority

to issue such an order. He has no power to require or prohibit the reading of the Bible in the public schools. This is a local question, and is under the direct jurisdiction of the local school authorities."

It is thought probable that the Attorney-General may be asked for an opinion and that the courts may be called upon to decide the matter.

Gardens for Defectives.

Arrangements have been made to teach gardening to defective pupils in the Cleveland schools. Miss Louise Kline Miller, curator of school gardens, thinks the work will prove a means of teaching the defectives when other means fail.

"We have already made plans for the gardens in the schools where there are classes for defectives," said Miss Miller recently. "We have one in operation at Fowler School and it is most efficient."

"Psychologists tell us that defectives can be approached thru rudimentary ideas where it is impossible to reach them in any other way. That is what we are working on at Fowler School."

The gardens are to be made features of Brownell, Doan, Fowler, Kinsman, Meyer, Outhwaite, Orchard, Quincy, Stanard, and Waring Schools, the deaf school, and perhaps the boys' school later in the year.

Growth and High Standards.

Pres. F. W. Hinit, of the Central University of Kentucky, recently commented upon the growth of Southern colleges which have recently raised their entrance requirements and standards of scholarship.

"Central University was the first to undertake the work," he said, "and now has her entrance requirements raised to fourteen units, which is only one unit behind Yale and Harvard. This work was commenced in 1906, and the results desired are already in evidence; it has weeded out men who went to college with no idea of getting a college education. A more matured set of fellows are now to be found than formerly, and as a result of this, we were enabled this year to install a graduate department, which has an enrollment of nine men. It is the first regularly established post graduate department Central University has ever had."

Distinguished Speakers.

Consternation struck the Newark, N. J., Y. M. C. A. last week, when it was learned that an announcement of the university extension course had it that Cardinal Newman, Charles Kingsley, Charlotte Brönte, Mrs. Gaskell, Anthony Trollope, John Ruskin, and Matthew Arnold would lecture during the autumn. It was too late to correct a printer's error that changed the word "lecture" to "lecturers," and Secretary Smith was kept busy denying that the Association contemplated any such widespread literary resurrection.

New Trades School.

Work on the proposed David Rankin, Jr. School of Mechanical Trades of St. Louis, will be undertaken at once. Mr. Rankin has announced his purpose of endowing the institution with \$1,000,000. The buildings, it is hoped, will be completed within a year.

The donor, who is more than seventy years old, announces that the school will be particularly for poor boys.

"It will not be for the so-called 'higher education,'" he said recently, "but to teach all the trades, all the mechanical arts, to poor boys, who will learn to use their hands as well as their brains."

Lewis Gustafsen, lately associate of the Lewis Institute in Chicago, has been chosen as principal, and is now visiting similar institutions in the east and organizing a corps of instructors.

The Social Side.

Superintendent and Mrs. Taylor, of Niagara Falls, recently received, at the high school building.

The rotunda was very attractive with its decorations in red and green, the lunch counter was banked with ferns and palms, while bunches of salvia on the different tables carried out the color scheme. Festoons of red crepe paper hung from the sides of, well to the center, and decorated the electric lights. Rugs and a piano also added to the effect. After greetings had been exchanged so that all could become acquainted, the guests were invited into the west hall, where the decorations were all in pink, and a dainty lunch was served from a prettily trimmed tea-table. Mrs. Taylor was assisted in serving by the ladies of the receiving party.

The Heath Readers Along the Seaboard

THE HEATH READERS have been adopted by more than three thousand cities and towns, by two states and by hundreds of counties throughout the country. They are used in the following chain of great cities along the Atlantic Coast:

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Science and Temperance.

Last December the Scientific Temperance Federation was organized. During the past year the Federation's headquarters in Boston have become a successful receiving and distributing station for scientific information on all divisions of temperance work. Physicians and scientists have sent the results of their investigations on the use of alcohol and other narcotics, and these have been put on file for reference. Social workers and teachers have also contributed the conclusions drawn from their observations. The various contributions have been systematized and made available for all who sought them, and have also been distributed thru the press and in other effective ways.

It is encouraging to notice that temperance teaching has passed from the sentimental stage to that of scientific inquiry, and the application of scientific preventives. The Federation seeking not to supplant but to supplement and co-operate with temperance organizations already existing, teachers and others interested have been urged to write to the secretary, Miss Cora F. Stoddard, 23 Trull Street, Boston, for information along any special line of the work. The formation, last August, of the International Temperance Bureau will aid in disseminating more widely practical means of combating this evil. The associate membership fee is two dollars annually. Members will receive regularly, bulletins, samples of literature, notices, etc. The schools of the country will benefit in proportion as the teachers respond to this opportunity.

State Inquiry Begun.

The State Department of Health, on October 14 sent to each of the 446 incorporated villages in New York a complete set of forms, with instructions for the examination of the eyes and ears of school children in the public schools of those villages. It is proposed to conduct these examinations by the teachers early this month. The local health officers will be asked by the State Department to co-operate with the teachers. Records of the tests will be sent to the parents or guardians of all children, and to the State Department of Health.

A Brilliant Course.

Columbia University has inaugurated a remarkable series of lectures which will cover, in a general way, practically the entire field of education.

Its purpose is to lay before members of the University, and the public, in non-technical language, the latest work in science, philosophy, and art, and to explain the history, achievements, and present outlook of each with their interrelations.

The list of lecturers and subjects follows: October 16, "Mathematics," Professor Keyser; October 23, "Physics," Professor Nichols; October 30, "Chemistry," Professor Chandler; November 6, "Astronomy," Professor Jacoby; November 13, "Geology," Professor Kemp; November 20, "Biology," Professor Nilsson; November 27, "Physiology," Professor Lee; December 4, "Botany," Professor Richards; December 11, "Zoology," Professor Crampton; December 18, "Anthropology," Professor Boas; January 8, 1908, "Archaeology," Professor Wheeler; January 15, "History," Professor Robinson; January 22, "Economics," Professor Seager; February 12, "Politics," Professor Beard; February 19, "Jurisprudence," Prof. Munroe Smith; February 26, "Sociology," Professor Giddings; March 4, "Philosophy," Professor Butler; March 11, "Psychology," Professor Woodworth; March 18, "Metaphysics," Professor Woodbridge; March 25, "Ethics," Professor Dewey; April 1, "Philology," Professor Jackson; April 8, "Literature," Professor Peck.

In and About New York City.

The building fund of the New York Teachers' Association is now \$21,000. President Gross, in his message, urges the need of securing a permanent home. Fixed headquarters would add much to the efficiency of the Association.

The New York Teachers' Association has arranged for a public meeting to be held at the Board of Education building on October 29, at 4:30, to consider more effective means of discipline. Justice Wilkin, of the Brooklyn Children's Court, will speak. The Association hopes to arouse serious popular interest in the question, one to enlist the aid of parents in maintaining discipline at school. Good discipline there will unquestionably react beneficially upon the home.

At their fall reunion, the alumnae of Normal College took a decided stand on corporal punishment.

Resolved, That the Associate Alumnae of the Normal College is opposed to the return of corporal punishment in the public schools of New York City, as such punishment is brutal, and will tend to degrade rather than uplift the pupil upon whom it is inflicted.

Grosvenor H. Backus, a lawyer of Brooklyn, has sent his resignation as a member of the Board of Education to President Winthrop. In his letter Mr. Backus says that he is to be assistant counsel to the Public Service Commission, and that his time will be too greatly occupied for him to remain a member of the Board of Education. He was appointed to the Board on December 1, 1903. His resignation makes the fifth vacancy in the Board.

Dr. Frank Rollins, in his inaugural address as president of the Schoolmasters' Association, declared that with the progress of civilization the definition of culture had changed materially. Formerly it meant the ability to think, and now it has been extended to include the ability to do.

It being the function of the industrial schools to teach pupils how to do things, as well as to think, he claimed that these schools are fulfilling the requirements of culture.

The normal course on festival methods, which Mr. Percival Chubb is directing at the Ethical Culture School this year is divided into five divisions, as follows: General Theory and Outlook, Mr. Chubb; Organization and Management, Mr. H. K. Bassett; Music in the Festival, Mr. P. W. Dykenia; Dance, Gesture, and Movement, Miss Caroline Crawford; Art in Relation to the Festival, Mr. James Hall; Costume, Miss M. R. Perrin. In all there are twenty lectures and ten conferences. Classes meet at 3:45 P. M., on Mondays.

For Progressive Teachers.

District Supt. Julia Richman has planned a very practical way of helping the teachers of her districts. With the aid of the principal a course on elementary school methods will be given at Public School No. 63, Hester and Essex Streets, on Tuesday afternoons at 3:20.

There is no fee for the course, and attendance is voluntary, but a record of attendance will be kept, and unsuccessful teachers who fail to attend will be asked to explain their lack of effort toward improvement. Teachers will be urged to bring before the lecturer or to send to the office of the district superintendent such questions as they desire to have discussed.

Brooklyn Aids Moscow.

The Brooklyn Teachers' Association a few days ago received a letter from the First Moscow Settlement. It is an

appeal for aid in organizing an experimental public primary school.

"The educational work," the letter states, "of the new school should be based on independence of children's work, development of their individual capacity, self-reliance, personal activity, and social instincts.

"This school, with a children's library, museum, workshop, school supplies, playgrounds, etc., is intended to be a propaganda of the new spirit of school life into which all Russian schools must evolve.

"With this earnest purpose the First Moscow Settlement is anxious to secure further information about school methods adopted in different countries, and hopes to find assistance from private persons and societies interested in educational work.

"All you will send us will be welcome." The Association will collect and send the material which it deems best suited to aid in starting this work.

Education Council.

The Educational Council has been exceptionally fortunate in securing a pleasant room at the Twenty-third Street branch of the Y. M. C. A., and the meeting held there on October 19 was well attended and full of interest. After the new president, Superintendent Woodley, of Passaic, N. J., had been introduced, he presented the speaker of the morning, Dr. A. C. McLachlin, of the Jamaica Normal, who spoke on "The Spirit of the Teacher." Educational qualifications, of course, are necessary, said Dr. McLachlin, knowledge of method is necessary, training is necessary, but, above all, there is the spirit of the teacher, and if this be lacking, these other qualifications will avail nothing.

The speaker said that he wished teachers who had ceased to grow would follow the advice of the Irishman who, upon seeing the epitaph "Not dead, but sleeping," remarked, "If I were dead I'd own it." The first element of growth, he continued, is to forget self. The artist teacher is one who forgets self in devotion to her work.

The discussion which followed was turned into an experience meeting, in which different members testified to the spiritual uplift which they had at some time received from one of these self-forgetful, spiritually-minded teachers.

The new president announced plans which promise well for an interesting year's work.

Alumnae Lectures.

Girls who have recently left school and faced the world for themselves can probably tell those who are yet in school more nearly than anyone else exactly what they need to know of outside conditions. At the Washington Irving High School a series of alumnae talks on practical affairs has been outlined. The opening lecture was given by Miss Amelia Besuzzi, of the class of June, 1906, now with the Home Pattern Company.

Miss Besuzzi told the girls that the greatest impediment to a business girl's success is the fool talk of other girls who ask, "What are you hurrying for?" "Why do you take such pains?" She said the only people happy in business are the ones that do more than is demanded of them. "Don't be too free to decide that some studies are useless to you. There is not a thing I studied in this school that has not helped me more than I can tell you. I never met a girl who had stayed thru the full course of a school who regretted it, but the first thing any other girl always says, when talking about school is: 'What a mistake I made in not taking the whole course!'"

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"After having the measles my whole head and neck were covered with scaly sores about as large as a penny. They were just as thick as they could be. My hair all came out. I let the trouble run along, taking the doctor's blood remedies and rubbing on salve, but it did not seem to get any better. It stayed that way for about six months; then I got a set of the Cuticura Remedies, and in about a week I noticed a big difference, and in three weeks it was well entirely and I have not had the trouble any more, and as this was seven years ago, I consider myself cured. I used one bottle of Cuticura Resolvent, one box of Cuticura Ointment, and two cakes of Cuticura Soap. Mrs. Henry Porter, Albion, Neb., Aug. 25, 1906."

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No Guessing!

Teachers of Poughkeepsie, N. Y., are protesting against the plan which the medical inspector, Dr. Mann, is endeavoring to put into operation. He has prepared and had distributed among the teachers, cards for reporting the physical condition of each child. Questions as to nutrition, cleanliness, condition of teeth, eyes, ears, etc., are asked.

In the first place, the teachers claim that such a plan would add greatly to their already heavy clerical duties, and in the second place, that such examinations, to be of value either in individual cases, or as the basis for statistics, should be performed by doctors or trained nurses. The teachers are right; the medical inspection must be put on a scientific basis to be effective. School boards do not employ amateur teachers and certainly should not be satisfied with amateur doctors.

School Board Association.

South Dakota has a splendid Association of School Boards.

The membership of this Association is composed of delegates elected by legally constituted school boards of the State. Each school board is entitled to elect from its own members two delegates to the Association.

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